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Financial Saving Behavior: The Relationship Between Incremental Theory, Perceptions of Future Self, Financial Literacy, and Saving Behavior Change

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Abstract

The inequality in asset acquirement across the U.S. population is of great social, economic, and political concern as the American middle class is decreasing rather than expanding. Savings are a critical component in financial management. A variety of social psychological factors underlie financial saving practices, impacting asset accrual. Using an experimental design, this study examined the impact exposure to an incremental financial saving orientation, future financial-self, and basic financial literacy training have on the transtheoretical level of saving behavior and intent to save. The study was exclusively completed online by employees of fifteen companies. The incremental saving intervention is an introduction into how individuals can view saving in terms of growth in ability to save toward financial goals. The future financial-self intervention exposes individuals to how they can become more cognizant of their future financial self and plan accordingly. The transtheoretical level of saving behavior refers to the transtheoretical model (TTM) of behavior change stages for placement of saving readiness. The results of the study suggest incremental saving orientation increases intent to save. Results further suggest exposure to all three interventions increase intent to save and that change in the transtheoretical model of behavior stage influences intent to save. The results of this study have important theoretical and practical implications. Specifically, the application of incremental saving intervention and TTM interventions in the workplace could strengthen employees' financial wellness, as well as help increase employee productivity.

Keywords: employees, financial saving practice, incremental theory, future selves' theory, financial literacy training, transtheoretical model of change, saving intent

Dedication

To my daughter Allie – May you follow your dreams and accomplish impossible things to make the world a better place for those who live in it.

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Chapter 1: Introduction

The U.S. today experiences great diversity in the financial saving practices of its citizens (Pew Charitable Trusts, 2015). There is an ever-widening gap between those who have acquired substantial means and those with very limited financial means (Walsh, 2014). Those with fewer financial means generally have less room for financial error. For Americans, the primary stress is money worries (Prawitz & Cohart, 2014; American Psychological Association, 2014). Thus, stress levels are related to one's money management and savings practices (Willis, 2011; Bailey, Woodiel, Turner, & Young, 1998). Seven in ten Americans cite financial stress as their most frequent stress (Consumer Financial Protection Bureau, 2014; American Psychological Society, 2014). And half of Americans find handling personal financial situations stressful (Consumer Financial Protection Bureau, 2014; American Psychological Society, 2014). Stress has numerous triggers; however, "…financial stress is perceived to be one of the most important sources of psycho-social stress because so many of the basic activities of daily life are associated with personal financial resources and their management" (Bailey et al., 1998, p. 198; Peirce, Frone, Russel, & Cooper, 1996). Underlying social psychological factors impact financial management decisions (Maton, Maton, & Martin, 2010) and thus are worthy of examination.

Successfully accruing personal financial savings depends on a person's motivation to save but also on financial management knowledge and skills (Anderson & Butzin, 1974; Mitchell, 1982). The action of saving a portion of one's financial resources toward a financial goal can thus be viewed as a combination of both how and for what reason to save. Based on this understanding, the current study investigates both aspects of saving behavior, the skills and the motivation to save, by focusing on the impact of the role of incremental saving orientation, future financial-self orientation, and financial literacy training on financial saving behavior. Specifically, this study examines whether the introduction of the proposed interventions are related to a change in saving practice intentions. The research questions are: Does an incremental orientation introduction positively impact financial saving intent? Does a combination of an incremental orientation and future financial-self introduction positively impact financial saving intent? Does a combination of an incremental saving introduction and a future financial-self introduction and basic financial literacy training positively impact financial saving intent?

Chapter 2: Theoretical Foundations

Financial wellbeing, including financial saving processes practices are examined, including confounds which complicate saving decisions. The theoretical foundation of the Transtheoretical Model of Change is introduced and specified for how it has been used to address change. An introduction of implicit theories, future self, and financial literacy is made. Considerations of how incremental theory, future financial self, and basic financial literacy training may impact saving behavior are examined.

Financial well-being has been found to correlate with financially responsible behaviors (Arman, 2010). However, humans experience an emotional relationship with money (Maton et al., 2010). Because of this, as Kahneman states, “Financial decision making is not necessarily about money” (Zweig, 2007, p. 5). The money relationship draws on thoughts, feelings and sensations one has regarding one’s money and thereby, either aids or deters one’s skills in financial saving practices (Maton et al., 2010). In this way, one's emotional state can impact financial choices (Lerner, Small, & Loewenstein, 2004). And due to this, individuals' emotional relationship with their money can help or hinder achievement of wise financial management (Zweig, 2007), thus preventing otherwise quite graspable financial dreams (Maton et al., 2010).

Financial Savings

Financial saving practices are one manner in which one can plan and prepare for the future. Although external forces have great influence, ultimately individualized decisions to act impact financial well-being (Robb & Woodyard, 2011). One of the decisions that affect financial well-being is the decision to actively save a portion of one's income. A personal saving program involves the regular setting aside of some financial amount prior to spending one's earnings (Hilget & Hogarth, 2003). At present, fifty-five percent of Americans do not have enough savings to cover one month of lost wages to meet current household expenses (Pew Charitable Trusts, 2015). While having access to funds when needed (as during an emergency or a financial growth opportunity) is arguably valuable for everyone, it is especially crucial when there are limited resources at one's disposal (Collins, 2009). Forty-four percent of Americans self identify as working class (CEPR, 2014), which is defined as "The socioeconomic class consisting of people who work for wages, especially low wages, including unskilled and semiskilled laborers and their families" (American Heritage Dictionary, 2011). While one's access to financial resources impacts financial behavior (Hilgert & Hogarth, 2003), it is interesting to note that one's financial behavior impacts financial satisfaction to a greater degree than one's income (Robb & Woodyard, 2011). "Saving regularly can allow individuals to build assets into adulthood, cushion against shocks to their livelihoods, smooth consumption, and provide them with a chance to invest in their future wellbeing" (Pathak, Holmes, & Zimmerman, 2011, p. 2).

When youth have been exposed to others around them saving toward financial goals, the exposure shapes viewpoints regarding saving (Pathak et al., 2011). Perhaps this is why The Pew Charitable Trusts show sixty percent of Americans in the top and bottom two-fifths of income in childhood maintain that placement in adulthood (Olen, 2013). One's family and one's social environment impact much of what individuals learn in regard to money management and saving practices (Gudmunson & Danes, 2011; Parents, Kids & Money Survey, 2014). And likewise, one's money management and saving practices impact one's family and one's social environment (Gudmunson & Danes, 2011; Parents, Kids & Money Survey, 2014).

On the micro level, financial spending and saving decisions of all magnitudes impact the very fabric of one's life, touching everything from childrearing to retirement (Peetz & Buehler, 2009). On the macro level, individuals' decision to spend or to save income has a significant impact on the U.S. economic outlook (Cardarelli, et al., 2012). The consensus of financial experts is that individuals generally save less than is recommended for future needs (Bernheim, Forni, Gokhale & Kotlikoff, 2000). Financial temptations and challenges can interfere with the saving process, that of regularly appropriating some amount of money toward a savings goal, ideally first an emergency fund, followed by a short to mid-term goal and longer-term goals (Hilgert & Hogarth, 2003). This process has been recognized as a wise financial management principal, though the Survey of Consumer Finances suggests less than half of the U.S. population engages in the process (Hilgert & Hogarth, 2003). This may be due to the difficulty individuals have at all income levels to resist spending temptations (Higert & Hogarth, 2003). Regardless of spending temptations, the desire to save money for emergencies and for improvement is present at all, including low, income levels (Collins, 2009).

Financial Saving Practices.

Constructive financial behaviors [such as saving practices] are linked with financial satisfaction (Godwin, 1994; Xiao, Sorhaindo, & Garman, 2006). A saving behavior can be identified as either a single occurrence, as when one chooses to save a portion of a monetary gift, or a long term reoccurrence, as when one chooses to save a portion of one's salary each time one is paid (Xiao, 2008). Practicing financial saving is a behavior whereas the accumulation of financial savings is an outcome. The behavior [of saving] contributes as one of numerous factors to the outcome [of having an established savings] (Ajzen & Fishbein, 1980). Saving behavior is an important life skill and can be used both to bolster one's self for financial uncertainties, as well as to develop long-term wealth accumulation (Shim, Serido, & Tang, 2012).

A survey of U.S. employees showed two-thirds believed they were not saving enough for their future needs (Choi, Laibson, Madrian, & Metrick, 2004). In light of this, it is interesting to note the cyclical nature of positive financial behaviors and asset accumulation as well as asset accumulation and positive financial behaviors (Sherraden & Shanks, 2009). As employees are enabled to visualize the possibility of improved savings, increased planning is made possible (Ersner-Hershfield, Garton, Ballard, Samanez-Larkin, & Knutson, 2009). However, any successful visualization includes more than just a knowledge transfer, as improved financial knowledge does not necessarily equate to improved financial behavior (Robb & Woodyard, 2011;

Gudmunson & Danes, 2011). Psychological factors, such as locus of control may complicate that relationship (Robb & Woodyard, 2011). Until individuals feel some perceived level of control over personal finances, they may not fully utilize financial knowledge (Perry & Morris, 2005). Clearly, this can impact individuals' readiness to save toward financial objectives (Perry & Morris, 2005). In order to explore and capture financial saving behavior, an applicable savings measurement tool is needed.

Transtheoretical Model of Change

"TTM is an integrative model of intentional behavior change that provides a framework for directing the design, content, implementation, and evaluation of interventions" (Nigg, 2005, p. 32). The transtheoretical model of behavior change has been used to document financial behavior change (Xiao, 2008; Loil & Hira, 2007; Xiao, Newman, Prochaska, Leon & Bassett, 2004; Xiao, O'Neill, et al., 2004). The model was developed by Prochaska and DiClemente (1984). The Transtheoretical model (TTM) emerged following comparative analysis of over three hundred theories used for behavior change (Prochaska & Velicer, 1997). The goal of the comparative analysis, "systematic integration" of behavior change strategies to address the fractioning that had occurred previously (Prochaska, & Velicer, 1997, pg. 38). In this manner, TTM was constructed as a theory to aid individuals in moving toward a desired target, stage by stage (Xiao, 2008; Prochaska & DiClemente, 1984). The model accounted for the emotions, cognitions, and behavior involved in any change (Velicer, Prochaska, Fava, Norman, & Redding, 1998) and was based on two dimensions, the stages of change and the processes of change (Prochaska & DiClemente, 1984; DiClemente, et al., 1991).

TTM has been used widely as a tool for both individual and population based change due to its aid in identifying an individual or population readiness for change relative to a target behavior (Nigg, 2005). From this information, relevant heuristics can be constructed and provided for those at each stage (Nigg, 2005). In short, TTM can be used to determine the stage an individual is at, which allows customization of the behavioral change program based on the individual's identified stage (Prochaska, 2003).

Through the years, the model has been used effectively in counseling settings with aiding individuals in altering a behavior, as well as in enacting an organizational change (Xiao, 2008). The wide versatility of the model has allowed for broad applicability. The model consists of the constructs: stage of change, process of change, self-efficacy, and decisional balance (Xiao, 2008). The five stages of change are referenced as: precontemplation, contemplation, preparation, action, and maintenance. Individuals are placed in different stages based on current behavior relative to the target behavior (Lerdal et al., 2008; Xiao, 2008; Nigg, 2005). The model originally omitted the preparation stage (Prochaska, & DiClemente, 1984); however, the preparation stage was later added (Prochaska, & Velicer, 1997). Earlier versions of the model also included a sixth stage, that of termination (Prochaska & Norcross, 1994), but it is not used as widely today (Lerdal et al., 2008).

Precontemplation is the stage identified for an individual who does not wish to make a target change within the next six months. Individuals in the contemplation stage wish to make a target change within the next six months whereas individuals in the action stage have begun behavioral change, yet have been doing so for less than six months. Maintenance is the stage identified for an individual who has been making the target change for more than six months, but less than eighteen months. Individuals who have made the target change for more than eighteen months are identified as changed (Lerdal et al., 2008; Xiao, 2008; Nigg, 2005; Prochaska & Norcross, 1994; Prochaska, Norcross, & Diclemente, 1994).

The stages are considered fluid and individuals may pass forward and backward through the stages as an identified target change is considered (Xiao, 2008; Nigg, 2005; Nigg et al., 2005; Prochaska, & DiClemente, 1984). Additionally, an identified target change may necessitate more than one round of TTM completion (Nigg et al., 2005; Prochaska et al., 1994). Processes of change, decisional balance, self-efficacy, and temptations are considered critical components of moving through the stages of change (Nigg, et al., 2005; Prochaska & Velicer, 1997). The decisional balance, or costs and benefits of the change are considered, as well as one's self-efficacy, or confidence in achieving the target behavior (Xiao, 2008). The use of self-efficacy in TTM was taken from Bandura's self-efficacy theory (Prochaska & Velicer, 1997). As individuals proceed through the stages, confidence can grow, cost perception can decrease, and benefit perception can increase (Procheska et al., 1994; Xiao, 2008). Decisional balance is thus impacted by temptation strength, as well as level of self-efficacy concerning the target behavior in question (Prochaska & Velicer, 1997). One's intention regarding the target behavior plays into one's level of movement through the stages (Nigg, 2005).

The TTM processes of change are referenced as: consciousness raising, catharsis/dramatic relief, self-evaluation, environmental reevaluation, self-liberation, social liberation, counterconditioning, stimulus control, contingency management, and helping relationship (Prochaska & Norcross, 1994). TTM holds that the stages of change and processes of change are most effective when integrated together, especially when appropriate processes are used at each stage (Prochaska & Norcross, 1994).

In comparison to other multi-stage theories, TTM has wide empirical support (Xiao, 2008). In particular, TTM has the following unique attributes:

> a) it integrates essentials of major psychological theories in a framework to offer more effective interventions; b) it defines multiple stages of behavior change, which is different from an action paradigm, and has the potential to reach those both ready and not ready to change the targeted behavior; c) it matches intervention strategies to different stages of behavior change, which makes it more effective compared to other intervention programs; and d) it focuses on enhancing self-control (Xiao, 2008, p. 76; Prochaska, Redding, & Evers, 1996).

TTM holds that as support for the target behavior change increases, in conjunction with a decrease in resistance to the target behavior change, the fluidity of movement through the stages increases (Prochaska et al., 1994).

TTM Financial Applications.

TTM has been used successfully in helping women increase their financial investing abilities (Xiao, 2008; Loibl & Hira, 2007) in limiting undesired credit card debt (Xiao, 2008; Xiao, Newman et al., 2004) and in creating positive change in financial behaviors (Xiao, 2008; Xiao, O'Neill, et al., 2004). In addition, TTM has been used in lower-income financial education programs (Xiao, 2008; Shockey & Seiling, 2004).

In using TTM to aid female investors, financial planners were able to identify which investment TTM stage the women were in and help those who were interested to move into the next stage (Loibl & Hira, 2007). The stages, as applied to female financial investing, via Loibl and Hira (2007) were as follows. For those in the precontemplation stage, the clients were either avoiding investments or felt past investing failures overshadowed the hope of investment successes. For those in the contemplation stage, the clients were strongly considering making an investment within the next six-month time period and as part of that process were examining the strengths and weakness of potential decisions. For those in the preparation stage, the clients were contemplating immediate action and as such were in need of a financial investing plan. For those in the action stage, the clients were currently making financial investing decisions. For those in the maintenance stage, the clients were increasing in confidence regarding the making of personal financial investments (Loibl & Hira, 2007).

The present research builds on the prior application of TTM to financial behavior change. Specifically, TTM will be the theoretical framework to explore relevant factors related to change in saving behavior. In order to aid individuals in movement through the stages of financial saving change, interventions are needed. The proposed interventions consider the components of moving through the TTM stages – the processes of change, decisional balance, self-efficacy, and temptations. Specifically, the interventions will serve to educate though relaying information, aiding skill-building, and increasing motivation (Hilgert, Hogarth, 2003).

Implicit Theories

Implicit Theories suggest individuals see self and others along a spectrum represented by two contrasting endpoints. The endpoints are reflected by two opposite orientations: entity and incremental (Dweck, 1999). An entity orientation holds that traits and abilities are fixed and that individuals are born with certain levels of ability, which remain fixed over one's lifetime (Bandura & Dweck, 1985; Dweck & Leggett, 1988). An incremental orientation holds that while individuals are born with differing levels of abilities, they are in no way fixed (Bandura & Dweck, 1985; Dweck & Leggett, 1988). Instead, incremental adherents believe there are countless opportunities for growth and improvement which are theirs' for the taking. In this way, incremental adherents believe that ability can be increased if an individual desires to put forth the effort needed (Bandura & Dweck, 1985; Dweck & Leggett, 1988). The belief that effort cultivates improvement facilitates a growth potential not considered possible by entity adherents. As such, those with an incremental viewpoint often see challenges as a way to grow, while those with an entity viewpoint often see challenges as a threat to one's sense of self (Dweck, 1999; Dweck, 1975).

Challenges.

This differing viewpoint of challenges leads to differing responses to said challenges. Those with an incremental view are far more likely to embrace challenges and try new things with the expectation that improvement is possible. Those with an entity view are far less likely to welcome challenges, choosing instead to avoid (Diener & Dweck, 1978, 1980; Dweck, 1975; Dweck & Reppucci, 1973). This occurs as a result of the possibility of performing poorly and then being perceived as less competent. In sum, individuals with an entity orientation are not willing to sacrifice the possibility of being perceived in a less competent light to take the risk of learning something new (Grant & Dweck, 2003).

Until something new is presented, the impact of the two orientations is not stark. However, the difference in application of the two orientations becomes especially relevant when situations become more difficult (Dweck, 1999; Dweck, 1975). As challenges increase, one's frame of reference, either an implicit / innate ability or an incremental / learned ability can vastly impact the outcome (Dweck, 1999). The spectrum between the implicit or incremental frame of reference can apply in numerous areas of one's life, including how one views one's capability level in a given area (Dweck, 1999). It should be noted that while one's implicit orientation may apply across the scope of one's life, it is also possible for one to have differing placement on the implicit spectrum based on the area of focus. If one views oneself as capable of learning and doing more to meet a specific challenge in a specified area, the response to the challenge will be different than if one views the challenge as a threat and potentially a signal of defeat (Miller, 2010; Aronson, Fried, & Good, 2002; Dweck, 1999).

It is especially interesting to note that the incremental view of being more willing to take risks to learn occurs even when one has a low confidence level in oneself (Elliott & Dweck, 1998) presumably because one's sense of self is not at stake. Instead, there is separation between who one is and what one is learning (Dweck, 1999). In this way, adopting an incremental orientation may prove an important element in increasing self-esteem (Dweck, 1999).

Growth vs. Fixed.

Self-esteem is not something that can be given to people, rather it is something they gain for themselves as knowledge, experience, and abilities are gained (Dweck, 1999). The manner in which one is praised can make a large difference in how one's view of self is formed. Consider how this information may reflect through one's social and environmental experiences. If one finds oneself surrounded by those who encourage a growth mindset, one may gravitate more toward this mindset for how one views self and others (Kamins & Dweck, 1999; Mueller & Dweck, 1998). In contrast, if one finds oneself surrounded by those who encourage a fixed mindset, one may gravitate more toward this alternate mindset in development of how one views self and others (Kamins & Dweck, 1999; Mueller & Dweck, 1998). This information has special relevance as tasks become increasingly more difficult over time. Those who receive praise for their intellect or ability tend to give up on challenging tasks much earlier than those who receive praise for their work strategies or work processes (Mueller & Dweck, 1998). These different learned behaviors for dealing with new challenges can have lasting impacts.

Learning.

The viewpoint that individuals are limited by their innate abilities clearly restricts the potential of how the self and others are judged (Howard, 1995). One's lack of skill in a certain area may be viewed as a permanent deficit, not to be overcome. This concept of fixed intelligence is in direct contrast to the concept of growth minded intelligence (Dweck, 1999). Growth minded intelligence "is the gradual accretion of skills, knowledge, and learning capacity. Development is fueled by effective effort, that is, a committed, focused, and strategic approach to work" (Howard, 1995, p. 89). There is arguably a clear benefit for those holding an incremental viewpoint as it emphasizes the process of achievement versus the defining of oneself by the achievement (Dweck, 1999). In focusing on the process, the door is opened to consider factors leading to good performance as well as factors leading to poor performance (Bandura & Dweck, 1985; Dweck & Leggett, 1988).

A scientist and Nobel Prize winner, later in life learned of his IQ score. The IQ score had been determined during testing in his younger years. The adult scientist was surprised at how low his childhood score was and recognized that had he known the score at that time he would never have thought himself capable of all he had accomplished in the field of science (Dweck, 1999). “The fallacy is in thinking that by measuring someone’s present skills, you’ve measured their potential; that by looking at what they can do now, you can predict what they’re capable of doing in the future” (Dweck, 1999, p. 59). Understanding how people learn is related to how they view themselves. Those who adhere to an incremental orientation were found to attribute personal effort as needed when receiving negative feedback and also were more willing to take remedial action if personal performance was found wanting (Hong et. al, 1999).

Incremental Interventions.

In a study conducted with college students, researchers found that when students believed personal traits were malleable, challenges were faced with far greater effectiveness than when the students believed personal traits were fixed (Davis, Burnette, Allison, & Stone, 2010). This finding was especially true when students felt themselves in the “underdog” position. As students struggled to meet academic requirements and held an incremental approach, it mediated the effect feelings of helplessness had on self-efficacy toward math performance (Davis et al., 2010). The students in the “underdog” position were affected by which implicit theory they held as it directly impacted feelings of helplessness and indirectly affected level of performance (Davis et al., 2010).

In a study conducted with adolescents struggling in academic performance, the manipulation of teaching an incremental orientation, an attribution orientation (circumstances may appear posing difficulties, but one can bounce back from them) and a combination of an incremental and attribution orientation brought about increased math grades as compared to the control group (Good, Aronson, & Inzlicht, 2003). The researchers also found improved reading scores for those taught the incremental orientation and the attribution orientation, though not the combined orientation, over those in the control group (Good et al., 2003). The study involved an intervention consisting of two individual ninety minute mentoring sessions, three months apart, as well as regular email exchange between the adolescents and their mentors, finished with the designing of a website using the message conveyed in the intervention (Good et al., 2003).

Additionally, Aronson, Fried, and Good (2002) found that students increased their grade point average, as well as both academic engagement and enjoyment after an intervention of an incremental intelligence introduction. These findings were especially strong for African American students, though to a lesser degree, also for the white students (Aronson et al., 2002). Participating students were subdivided into the incremental orientation pen pal intervention, the control or entity orientation pen pal intervention, and a no pen pal orientation gathering exercise. The orientation manipulation consisted of an introduction to the incremental orientation via written and video materials given in three one-hour sessions, spaced ten days apart (Aronson et al., 2002). Participants were then asked to use the material in a pen pal letter sent to a presumably struggling school aged child. Participants were asked to include personal examples of utilizing an incremental orientation in their own lives to further motivate the pen pal. Participants then sent a second pen pal letter after which they were asked to use the letter as material to write a speech about the merits of an incremental orientation. The intervention duration was approximately nine weeks (Aronson et al., 2002). The act of using the information led to an internalization of the concept. As students were introduced to the concept that they could elicit desired change through personal sacrifice, personal improvements occurred (Aronson et al., 2002).

It is the supposition of the current study that an introduction to the incremental orientation can have a successful transference from the field of education to the field of personal finance. In this way, participants can experience increased empowerment of future saving behavior in a similar way that past participants experienced increased academic test scores and grades. In addition, an increased belief in personal growth, may be complimented by an increased connection with ones future self.

Future Selves Theory

Researchers found those individuals who were able to connect with their future self were more apt to plan for wiser future financial management decisions (Ersner-Hershfiled, Garton, Ballard, Samaez-Larkin, & Knutson, 2009). The increased self-continuity one has with oneself, the greater the chance one will think about and plan for oneself in the future (Ersner-Hershfield, Garton et al., 2009). Often, but at varying rates, individuals engage in temporal discounting, or caring less about the future than about the present (Ersner-Hershfield, Wimmer, & Knutson, 2009). This process of temporal discounting makes it difficult for individuals to plan for the future; however, as the future self is seen as similar to one's present self, one is more apt to acquire financial assets (Ersner-Hershfield, Garton et al., 2009; Hershfield, Goldstein, Sharpe, Fox, Yeykelis, Carstensen, & Bailenson, 2011; Ersner-Hershfield, Wimmer, & Knutson, 2009). The assets are acquired because one has adopted a future orientation in which the future is planned for today (Ersner-Hershfield, Garton et al., 2009; Hershfield, Goldstein et al. 2011; Ersner-Hershfield, Wimmer et al., 2009). As individuals are primed with potential future consequences to gain a stronger connection with their future, immediate delayed gratification decreases in favor of an increased future orientation (Cheng, Shein, & Chiou, 2012). This process may then counter the temporal discounting, which tends to occur without the priming (Cheng et al., 2012). In this way, one's time orientation affects circumstances such as debt level and asset accrual (Hershfield, Goldstein et al. 2011; Hershfield, Wimmer et al., 2009), which clearly impact larger societal issues.

Future-Self Interventions.

Study participants' interaction with age progressed renderings of participants' present selves led to an increased willingness to consider greater future financial rewards over lesser immediate options (Hershfield, Goldstein et al., 2011). Participants exposed to a future version of self, experienced a shift away from temporal bias and exhibited greater saving behavior than those exposed to future other conditions (Hershfield, Goldstein et al., 2011). This study suggests an interaction with one's future version of oneself can limit the distance generally felt between one's present and one's future self. In some cases, one's future self can feel like another individual entirely, particularly when that self is many years away (Ersner-Hershfield, Wimmer, et al., 2009). Study participants who felt a greater connection to their future self made more beneficial choices for the future self (Ersner-Hershfield, Garton et al., 2009). Those who felt a greater connection with their future self had also acquired greater financial assets than those who had a weaker connection with their future self (Ersner-Hershfield, Garton et al., 2009). Additionally, appealing to individuals' sense of social responsibility to their future selves led to an increase in financial savings to a greater degree than the control group which used a message of self-interest (Bryan & Hershfield, 2012).

Impact.

Different choices lead to different outcomes. Individuals value future gains differently, with some presumably more connected to their future selves and valuing them more, and others presumably less connected to their future selves and valuing them less (Hershfield, Goldstein, et al. 2011). However, there may be an intervention for those who want it. "If individual differences in savings partially depend upon future self-continuity, then savings behavior might be modified either by altering perceptions of the future self or by projecting the current self into the future" (Ersner-Hershfield, Wimmer et al., 2009, p. 91). The priming of connecting an individual to one's future may help the individual develop an increased future orientation (Cheng et al., 2012). The emotions individuals feel in the present are of greater potency than the emotions individuals' presume they will feel in the future (Loewenstein, O'Donoghue, & Rabin, 2003). If individuals can recognize the future self will share emotional responses of the present self, then perhaps better future financial planning will occur (Hershfield et al., 2011). As those who were found more connected to their future self, also had acquired greater assets (Ersner-Hershfiled, Garton et al., 2009), it makes sense to increase future financial connections to better prepare for one's future. This is important, as consideration of one's future financial needs is critical for 21st century living (Cheng, Shein, & Chiou, 2012).

Financial Literacy Training

Financial Stress.

Nine of out ten employees report the use of work time to deal with personal financial issues (Loibl & Hira, 2005). Eighty percent of surveyed employees have admitted personal financial concerns impacted work productivity (Consumer Financial Protection Bureau, 2014). Twenty percent of Americans have required unexpected time off to deal with financial issues (Consumer Financial Protection Bureau, 2014; MetLife, Inc., 2012). Additionally, one out of four employees reported worrying about their personal financial situation while at work (Loibl & Hira, 2005). Employees' degree of personal financial wellness is a relevant factor in employee absenteeism (Joo & Garman, 1998).

Research has demonstrated a negative association between employees' financial concerns and employee job productivity (Garman et al., 1999). Stated another way, employees financial stress has been related to decreased job productivity (Kratzer, Brunson, Garman et al., 1998). Up to fifty percent of employees' stress could be reduced through an improvement in personal financial management (Bailey et al., 1998). However, in order for employees to manage personal finances, an ongoing acquisition of financial management skillsets is required (Loibl & Hira, 2005). Financial landscapes are constantly in flux, and as such, the financial management knowledge base must be dynamic in order for employees to prepare financially (Willis, 2011; Loibl & Hira, 2005).

Financial Literacy Defined.

Financial literacy has been defined as "…the ability to use knowledge and skills to manage financial resources effectively" (U.S. Government Accountability Office, 2015, p. 1). Financial illiteracy is widespread in the U.S. (Lusardi, 2008), and is particularly widespread among vulnerable demographic groups, including those with limited education and income, as well as women and minorities (Autisn & Arnott-Hill, 2014), which suggests numerous Americans are not effectively managing personal financial resources (U.S. Government Accountability Office, 2015). A gap in financial knowledge may lead to poor financial choices, impacting individuals and society as a whole (Jacob, Hudson & Bush, 2000). Financial capability has been defined as "…having the requisite knowledge, skills and access to manage financial resources prudently and effectively" (U.S. Treasury, 2015, p. 6). However, fewer than half of Americans use any form of a budget to manage personal finances (Olen, 2013). Some argue basic financial literacy training can provide vital information regarding choices and consequences associated with management of one's financial resources for those who self select to use them (Drexler, Fischer, & Schoar, 2014; Bernheim & Garrett, 2003; Lusardi, 2005). It is hoped as individuals are empowered to engage in financial planning and goal setting, financial capability can improve (U.S. Treasury, 2015).

Financial Literacy Programs.

While financial literacy programs have been in existence for several decades, some argue they have accomplished very little (Olen, 2013; Austin & Arnott-Hill, 2014). This may be due to the fact that many of the financial literacy programs are sponsored by the financial services sector, which have much to gain from ongoing financially ignorant choices (Olen, 2013). To teach anything, financial literacy programs face a dilemma between maintaining simplicity of information, while offering depth of financial knowledge (Drexler, et al., 2014). Research has suggested the design and implementation of financial literacy programs should be simple and easy to maneuver for the greatest practical use of the material (Drexler et al., 2014), suggesting erring on the side of simplicity. However, exposure to financial literacy programs is not enough to lead to positive financial behaviors (Willis, 2011; Olen, 2013; Austin & Arnott-Hill, 2014). It has been shown that financial literacy training is best used in combination with, rather than substitution for, decisional support (Carlin & Robinson, 2012).

For those who seek financial knowledge, there are numerous free financial literacy courses available online, such as courses focusing on financial literacy (Alison, 2016) sponsored by Alison: A New World of Free Certified Learning, money skills (Moneyskill, 2016) sponsored by the American Financial Services Association Education Foundation and personal financial management (CashCourse, 2015) sponsored by the National Endowment for Financial Education, NEFE. Additionally, there is 360 Degrees of Financial Literacy provided by the American Institute of Certified Public Accountants (AICPA, 2016), which offers both online financial planning steps, as well as downloadable powerpoint presentations. Many of the programs provide relevant financial literacy information as a service for society, while others may have ulterior motives for doing so (Olen, 2013). Regardless, some researchers have argued financial knowledge can aid the process of turning financial illiteracy to financial literacy (Drexler et al., 2014).

However, as previously noted, a one-time financial education is generally not enough by itself (Austin & Arnott-Hill, 2014; Willis, 2011). Rather, a tailored, dynamic program that can consider individual needs is of far greater service (Willis, 2011). Research has suggested that objective learning alone is not sufficient (Robb & Woodyard, 2011) and increasing financial knowledge is not the end goal to help individuals improve financial behavior (Austin & Arnott-Hill, 2014). Financial literacy interventions have not been found sufficient to move individuals in positive financial behavior change (Fernandes, Lynch, & Netemeyer, 2014; Gudmunson & Danes, 2011). Instead, a holistic approach to financial education is needed to improve the ease with which good financial decisions can be made (Robb & Woodyard, 2011) and financial goals can be met (Austin & Arnott-Hill, 2014). Financial education, which includes aspects of financial coaching (Fernandes et al., 2014) and nudges toward positive financial behaviors (Pathak, Homes, & Zimmerman, 2011) have been suggested as vital elements. Seeking to understand any potential impact financial knowledge of all types can have on financial behavior is a research priority (Robb & Woodyard, 2011).

Employee Financial Wellness Interventions

An approximate fifty-six percent of employees' waking hours are spent at work (Prawitz & Cohart, 2014; Bureau of Labor Statistics, 2009; 2010), to earn an income to support oneself and one's family. As such, employment may serve as the ideal location to gain financial education (Prawitz & Cohart, 2014). Numerous employees welcome the convenience of employee financial wellness programs (Higart & Hogarth, 2003). Financial education in the workplace has the capacity to most effectively aid those employees at the bottom SES, socioeconomic status (Loibl & Hira, 2005). Employers can offer employees financial management tools, which enable employees to increase both workplace satisfaction and productivity (Loibl & Hira, 2005). A strong financial education program may be expected to aid over fifty percent of employees (Joo & Garman, 1998; Kratzer, Brunson, Kim et al., 1998). In fact, evidence suggests employee financial education positively impacts financial wellness for employees (Garman, et al., 1999). Research further suggests a relationship between employee financial wellness and both employees' physical health and employers' performance ratings exist (Garman et al., 1999). This may be due in part to the strong correlation that has been found between financial stress and personal stress (American Psychological Society, 2014; Consumer Financial Protection Bureau, 2014; Bailey, et al., 1998).

Financial wellness is an ongoing discussion point for employers. In fact, employers reported feeling "…at least somewhat responsible for the financial wellness of their employees" (Workplace Benefits Report, 2015, pg. 3). The U.S. government suggests employers' strategic placement makes them ideal for supporting comprehensive employee financial wellness programs (U.S, Government Accountability Office, 2015). Sixty-nine percent of employers have reported already establishing, or plan to establish employee financial wellness programs within the next two years (Workplace Benefits Report, 2015). "Forward–looking employers are already playing an important role in shaping a better future for their employees and our country" (Consumer Financial Protection Bureau, 2014, p. 3). Employers have offered multiple reasons for offering employee financial education programs. These reasons have included improvement of employee financial wellness, reduction of employee stress, and increased employee productivity (Kratzer et al., 1998).

Employers continue to recognize the important role they can play in alleviating employees' financial stress (Workplace Benefits Report, 2015; Consumer Financial Protection Bureau, 2014; Kratzer et al., 1998). Employees benefit when employers participate to aid employees' financial planning process (Mullainathan & Shafir, 2013). A large part of this process is achieved through financial counseling (Willis, 2011), with a supportive approach having the greatest success (Maton et al., 2010). Individuals, who are guided through the emotional and physical steps of personal financial management, enjoy the greatest chance for personal financial goals to be met (Maton et al., 2010). A one-time infusion of financial information is not sufficient to aid employees in their financial education. Rather a repeating program is required to navigate a dynamic financial marketplace (Willis, 2011). Research has suggested there is not "…a causal chain from financial education to higher financial literacy, to better financial behavior, to improved financial outcomes in part due to biases, heuristics, and other nonrational influences on financial decisions" (Willis, 2011, p. 429). Research does, however, suggest a positive connection between financial interventions and financial literacy and financial literacy is essential (though not sufficient) for determining solid financial decisions (Austin & Arnott-Hill, 2014).

Benefits to Employers and Employees.

Research has suggested as employees' financial management skills are increased, in combination with adequate work compensation, employees' work productivity has increased. Additionally, personal health and family relationships are improved as well (Bailey et al., 1998). As employees develop "a stronger sense of financial well-being" through improved financial management, employees' personal struggles can be abated (Bailey et al., 1998). Many employers feel offering financial workplace options for employees helps their companies financially (Workplace Benefits Report, 2015).

Companies who utilize a financial wellness plan for employees indicate that it has contributed to increase employee satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%) (Workplace Benefits Report, 2015). Seventy-three percent of companies surveyed expect financial wellness plans will be standardized for all companies within the next ten years (Workplace Benefits Report, 2015). Employers acknowledge incentives "encourage and reinforce positive behavior" (Workplace Benefits Report, 2015, p. 12) and employers who utilize incentives find seventy percent of incentives are effective. Interestingly, even with these benefits, currently only one in seven employers offers incentives for employee participation in the financial wellness programs (Workplace Benefits Report, 2015). The most widely used incentives remain cash, gift cards and bonuses (Workplace Benefits Report, 2015).

Financial Counseling.

Research suggests individuals' ability to save for the future is dependent upon individuals' perception of control over one's life, as well as financial knowledge and resources (Perry & Morris, 2005; Joshi & Fast, 2013). Financial counseling or therapy is defined as "…the integration of cognitive, emotional, behavioral, rational, and economic aspects that promote financial health" (Archuleta, Burr, Carlson, Ingram, & Kruger, 2015, p. 13; Financial Therapy Association, 2015). The application of underlying psychological approaches to financial counseling can add much strength to the process (Archuleta et al., 2015). Perhaps due to this, financial behavior has shown to be significantly improved following financial counseling (Archuleta et al., 2015). One-on-one financial counseling can be very effective in aiding individuals to meet personal financial goals (Maton et al., 2010; Mullainathan & Shafir, 2013) and improve personal financial management (Higert & Hogarth, 2003). The U.S. Government Accountability Office (2015) cites the benefits of offering employees personal financial coaching, in which employees can be aided in taking personal financial action. Unfortunately, the identification of and payment to a financial counselor can make their services out of reach for many individuals (Financial Therapy Association, 2015; Ashford, 2015).

Computerized financial therapy may be the solution to offering a tailored, yet dynamic financial counseling program. Computerized therapy can offer the advantages of scalability, and both enhanced and evolving content (Helgadottir, 2014). It can be offered at a much lower cost than that of a one-on-one meeting with a financial counseling professional (Helgadottir, 2014). However, even with the numerous benefits of online programs, there are very few computerized therapy products available (Helgadottir, 2014) and no known financial computerized therapy products as yet.

For these reasons, financial saving interventions which can be administered online may be the best way to fill the gap and capitalize on the effectiveness which figurative financial hand holding can provide in increasing personal savings. A specialized online approach may allow for both the power of a connection, as well as the tailored repetition of a pre-set program.

Chapter 3: Research Hypotheses

How an online saving program may improve financial saving processes is outlined in the study model. Hypotheses to test the study model are listed. Knowledge accrual is improved with inclusion of personal experience (Hilgert & Hogarth, 2003). Financial literacy training on its own is not capable of eliciting positive financial saving change (Austin & Arnott-Hill, 2014; Willis, 2011), but in conjunction with decisional support, financial literacy training can aid positive financial decision-making (Carlin & Robinson, 2012). Furthermore, it has been shown that future financial selves interventions have led to some positive financial saving change (Ersner-Hershfield et al., 2009; Hershfield, Goldstein et al., 2011; Ersner-Hershfiled, Wimmer et al, 2009; Bryan & Hershfield, 2012) and interventions which foster an incremental orientation in an individual have led to increased grades and test scores (Good et al., 2003; Aronson et al., 2002). Due to this, it was believed that a successful transference of an incremental intervention into the realm of personal savings was possible.

Study Model

Building on the prior research, this study investigated whether an incremental saving intervention, and combinations of the incremental saving intervention, future-self intervention and basic financial literacy training result in movement within and through the transtheoretical model stages (pre-contemplation, contemplation, preparation, action, and maintenance) of financial saving behavior as well as intent to save. The study utilized online-based methods designed to introduce a financial incremental saving orientation, a future financial self-connection, and exposure to basic financial literacy training. It was expected that the individualized use of incremental saving introduction, combined effect of incremental saving introduction and future financial self introduction, and the trio combination of the incremental saving introduction, future financial self introduction, and basic financial literacy led to individuals' positive movement through the transtheoretical stages of financial saving change and intent to save. See Figures 3 and 4 for the model.

Hypotheses

Considering the research on the financial management and savings behavior, TTM and its specific components, this study suggested that individuals who are exposed to incremental theory, as well as combinations of incremental theory, future self, and financial literacy will be more likely to change their saving behavior than those who receive no training at all or only receive portions of the intervention combinations. Accordingly, the following hypotheses were tested:

Hypotheses related to movement through the TTM:

H1: Exposure to training about incremental theory is associated with positive movement through the transtheoretical model of saving change.

H2: Exposure to training about incremental theory combined with training about future financial self is associated with positive movement through the transtheoretical model of saving change.

H3: Exposure to training about incremental theory combined with training about future financial self is associated with greater positive movement through the transtheoretical model of saving change than exposure to training about incremental theory only.

H4: Exposure to training about incremental theory combined with training about future financial self and basic financial literacy training is associated with positive movement through the transtheoretical model of saving change.

H5: Exposure to training about incremental theory combined with training about future financial self and basic financial literacy training is associated with greater positive movement through the transtheoretical model of saving change than exposure to training about incremental theory and future financial self only.

Hypotheses related to intention to save:

H6: Exposure to training about incremental theory is associated with increased saving intent.

H7: Exposure to training about incremental theory combined with training about future financial self is associated with increased saving intent.

H8: Exposure to training about incremental theory combined with training about future financial self is associated with greater saving intent than exposure to training about incremental theory only.

H9: Exposure to training about incremental theory combined with training about future financial self and basic financial literacy training is associated with increased saving intent.

H10: Exposure to training about incremental theory combined with training about future financial self and basic financial literacy training is associated with greater saving intent than exposure to training about incremental theory and future financial self only.

Chapter 4: Methodology

The study design was outlined, as well as analyses of the hypotheses. The study variables were determined. Study measures were chosen. Interventions were outlined and intervention construction was highlighted.

Study Design

The study was conducted as an experimental field study with employee participants from local businesses. Field studies have the advantage of increasing external validity through increased applicability in broader settings (Reis & Gosling, 2010). The study was administered to employees online and followed the four stages of experimental design: setting the stage with a cover story, construction of the IVs, measurement of the DVs, and post-experimental follow-up (Aronson et al., 1998; Wilson et al., 2010). The *cover story* presented in the study was an examination of how individuals look at money. Participants were told they were taking part in an employee financial self-reflection study. The *three IVs* included: 1) incremental saving, 2) future financial-self and 3) basic financial literacy. The *DVs* included: transtheoretical stages of financial saving change and saving intent. The post-experimental follow-up included the complete explanation of the purpose of the study and further contact information was provided for the answering of any additional questions participants may have. See Appendix D.

In the study, participants were randomly assigned to one of four different groups: a control group, an incremental saving intervention group, a combination incremental saving intervention and future financial self intervention group, or a combination incremental saving, future financial self, and basic financial literacy intervention group. Each of the interventions (incremental saving, future financial-self, and financial literacy training) consisted of fifteen minutes of material exposure. As each of the groups had forty-five minutes of total material exposure, the control group material served as a full forty-five minutes of filler for the control group, thirty minutes of filler for the incremental savings intervention group, and fifteen minutes of filler for the combination incremental saving and future financial self group. See Figure 5. The use of control material allowed each of the interventions to maintain an equal fifteen-minute dosage, while remaining consistent in the forty-five minute total exposure to material for each group. Without the use of control filler, the groups would either be subject to differing intervention dosages or different total material exposure. Either alternative may have confounded the results.

Desiring statistical power of .80, probability level of .05, and expecting a medium effect of .15, the desired sample size for the main study was 77 (Soper, 2016). The qualifying participants for the study were taken from a total possibility of eighty employees of LP Insurance, seventy-seven employees of PBS West Billing, sixty employees of Tahoe Fracture and Orthopedic Clinic, thirty-five employees of Advanced Supply Chain Logistics, thirty employees of Yoga Pod, twenty employees of Orthodontic Partners, seven employees of Valley Veterinary Clinic, five employees of Carson City Endondontics, five employees of Stedham Electronics, and nine employees of Carpenter Music World, which resulted in a potential total of three hundred and twenty eight participants. See Appendices E, H, L, M, N, O, P, Q, R, & S for company invitations to participate and Appendices U, W, AA, AB, AC, AD, AE, AF, AG, & AH for company participation acceptance letters. See Appendix AL for detailed information about participating companies.

As the minimum number of participants needed to find a medium effect was seventy-seven and there were four groups, it was planned for each group to have a minimum of twenty participants. As the maximum number of pre-approved employee participants was three hundred and twenty-eight and there were four groups, each group could have had a maximum of eighty-two participants. Therefore, dependent on the level of interest for employee participation, the groups would each have consisted of between twenty and eighty-two participants.

A reliability analysis was conducted to check Cronbach's alpha of the new scales. As needed, a factor analysis was conducted to learn if the new questions were loading on the desired factors as in the original scales. Descriptive statistics were conducted to thoroughly examine the data. The pre and post t-test URICA scores were determined and subtracted to calculate a difference score. The pre-test and post-test Intent to Save scores were determined and subtracted to calculate a difference score.

To test H1, H2, H3, H4, and H5, Groups P, Q, R, S were dummy coded (k-1) and regressions were conducted to identify any changes in the DV *Transtheoretical Stages of Saving Change* due to use of the interventions while controlling for previously identified control variables. Also to test H1, H2, H3, H4, and H5, the interventions were used as continuous variables and regressions were conducted to identify any changes in the DV *Transtheoretical Stages of Saving Change* due to the intervention internalization while controlling for previously identified control variables. Lastly to test H1, H2, H3, H4, and H5, paired samples t-tests were conducted for Groups P, Q, R, and S to identify any changes between the pre-test and post-test scores in the DV *Transtheoretical Stages of Saving Change.*

To test H6, H7, H8, H9, and H10, Groups P, Q, R, S were dummy coded (k-1) and regressions were conducted to identify any changes in the DV *Financial Saving Intent* due to use of the interventions and to control for previously identified control variables. Also to test H6, H7, H8, H9, and H10, the interventions were used as continuous variables and regressions were conducted to identify any changes in the DV *Financial Saving Intent* due to the intervention internalization and to control for previously identified control variables. Lastly, to test H6, H7, H8, H9, and H10, paired samples t-tests were conducted for Groups P, Q, R, and S to identify any changes between the pre-test and post-test scores in the DV *Intent to Save*.

Though secondary in purpose to the study, relevant ordered control variables were as followed: perception of parent's saving practice, childhood SES, asset level, debt level, income level, age, gender, social desirability, educational attainment, family size, partnered status, race, and if the study was taken using a computer or smartphone. Order of relevance, as well as correlation between the variables determined which were used.

In sum, to test the H1 hypothesis, the DV (transtheoretical level of financial savings), was tested on exposure to the IV (incremental saving orientation). To test H2 and H3, the DV was tested on exposure to two of the IVs (future financial self orientation, and basic financial literacy training). To test the H4 and H5 hypotheses, the DV was tested on exposure to a combination of all three of the IVs (incremental saving orientation, future financial self orientation, and basic financial literacy training). To test the H6 hypothesis, the DV (financial saving intent), was tested on exposure to the IV (incremental saving orientation). To test H7 and H8, the DV was tested on exposure to two of the IVs (future financial self orientation, and basic financial literacy training). To test the H9 and H10 hypotheses, the DV was tested on exposure to a combination of all three of the IVs (incremental saving orientation, future financial self orientation, and basic financial literacy training). Additionally, for informational purposes, the pre-test and post-test scores for each of the interventions were tested for significant differences.

Variables.

The study included treatment conditions: an incremental saving intervention (continuous, independent), a future financial-self intervention (continuous, independent), a basic personal financial training (continuous, independent) and the dependent conditions of transtheoretical stages of financial saving change, including: pre-contemplation, contemplation, preparation, action, and maintenance (continuous, dependent) as well as intent to save (continuous, dependent).

Relevant control variables were also examined: age, gender, race, income, educational attainment, partnered status, current family size, debt level, assets acquired, childhood SES, and perception of parent's saving practice. Differences in age, gender, race, income level, and educational attainment were examined for impact on how personal saving perceptions are viewed, and were used as control variables in previous financial behavior research (Robb & Woodyard, 2011). Differences in assets acquired, and current debt loads were examined for impact in how personal saving perceptions are viewed, as used in previous research (Ersner-Hershfield, 2009). One's partnered status was examined for impact on saving perceptions as it had been examined in previous research (Clancy, Grinstein-Weiss, & Schreiner, 2001). Current family size (Loibl, Grinstein-Weiss, Zhan, & Bird, 2010), childhood SES (Sherraden & Shanks, 2009), and childhood perception of parent's saving (Gudmumson & Danes, 2011) was examined for their impact on saving perceptions as they had been examined in previous research. Perceptions of social desirability as well as how participants interacted with the study (via computer or smartphone) were also included.

Measures.

Measures were adapted from validated scales and examined in the pilot study before use in the main study.

Adapted URICA Scale.

To measure the transtheoretical model of financial savings level, an adapted financial saving version of the URICA Alcohol Version 24 continuous item measure

(University of Rhode Island Change Assessment Scale, n.d.; The Habits Lab at UMBC, n.d.; McConnaughy, Prochaska, & Velicer, 1983) was used. See Table 1 for the adapted version and Table 2 for the original version (University of Rhode Island Change Assessment Scale, n.d.; The Habits Lab at UMBC, n.d.). The adapted measure allowed placement of individuals into pre-contemplation, contemplation, or preparation (action), stages regarding a target (financial saving) behavior. The measure also allowed for tracking of any progress in or through stage movement regarding the target behavior.

The questions were answered on a 1 to 5 scale: (1=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree). Participants answered the questions for themselves, making the measure subjective. The measure answers were scored by first summing the items from each subscale, then using a specified formula (Contemplation+Action+Maintenance-Precontemplation/6) to determine the [saving] readiness score (The Habits Lab at UMBC, n.d., URICA, n.d.). Note that the URICA, which has been found to have good internal consistency, reliability, and construct validity (Ceccarini et al., 2015) has numerous adapted versions, including the URICA 24 and 28 Item Alcohol Version, 24 and 32 Item Drug Version, 12 Item Reduced Drinking-DELTA Project Version, and the 32 Item Psychotherapy Version (The Habits Lab at UMBC, n.d.). There is also the URICA-E2 Measurement of Stages of Change Related to Exercise Behavior version (Cancer Prevention Research Center, n.d.; Lerdal et al., 2008). The twenty-four URICA Alcohol Version was determined the best match as it diminished redundancy of the thirty-two question scale, while still allowing six questions per subscale to measure pre-contemplation, contemplation, action, and maintenance.

Adapted Intent to Save Scale.

To measure personal saving intention, adapted intent to save questions were used (Koehler, White, & John, 2011). See Table 3 for the adapted questions and Table 4 for the original questions. The adapted questions allowed for capture of intent to save at five different time periods. An example question was, "I plan to save some of my money within the next two months". A second example question was, "I plan to save some of my money within the next six months". The questions were answered on a 1 to 5 scale: (1=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree).

Adapted Incremental Saving Scale.

To measure the incremental saving intervention, an adapted financial saving version of the Theories of Intelligence Scale-Self Form for Adults (Dweck, 1999, p. 178) was used. See Table 5 for the adapted version and Table 6 for the original version. The adapted measure consists of four questions answered on a scale of six possible answers, ranging from strongly agree to strongly disagree. An example of one of the questions was, "You have a certain ability to save money, and you can't really do much to change it". The original measure consisted of eight questions answered on a scale of six possible answers, ranging from strongly agree to strongly disagree. However, the original tool specified the measure could be used just as effectively with only four of the eight questions (Dweck, 1999). A higher score indicated an increased rejection of the ideology that saving ability cannot be changed. Note the scale was flipped for use in the study, with a lower score indicating an increased rejection that saving ability cannot be changed.

Future Self-Continuity and Self Care Scales.

To assess the effect of the future-self intervention, the Future Self-Continuity Scale was used for two of the four questions measuring this scale (Ersner-Hershfield, Garton, et al., 2009, p. 281; Hershfield, Cohen, & Thompson, 2012, p. 301). The tool consists of seven sets of circles each representing one's present self and one's future self. Individuals were asked to choose the set of circles representing their personal connection to their future self. Participants received the instruction "Click on the picture below that best describes how similar you feel with your future self (you in 10 years). Current self = you now. Future self = you in 10 years" (Hershfield, Cohen, et al., 2012, p. 301). Based on this previous question, participants also received the instruction "Click on the picture below that best describes how connected you feel with your future self (you in 10 years). Current self = you now. Future self = you in 10 years" (Hershfield, Cohen, et al., 2012, p. 301; Hershfield, Garton et al., 2009, p. 281; Bryan & Hershfield, 2012, p. 430). See Figure 1. Additionally, to complete the remaining two questions of the scale, participants received third and fourth questions, which consisted of instruction to rate how much they care about and like their future self, using the anchors of "don't care at all" to "completely care" at both ends of the seven-point scale (Ersner-Hershfiled, Garton et al. 2009, p. 281). See Figure 2. A higher score indicated an increased similarity / connection / care / like for one's future self.

Adapted Financial Fitness Scale.

To measure the basic financial literacy intervention, an adapted version of the financial fitness scale was used (AICPA, n.d.). See Table 7 for the adapted version and Table 8 for the original version. The tool consists of four questions with five possible answers, ranging from strongly disagree to strongly agree. An example of one of the questions was, "Making and using a budget gives me a lot of financial power". An increased score indicated an increased basic financial literacy rate.

Control Variables.

To measure the control variables, age, gender, race, income level, and educational attainment, questions formulated by Robb and Woodyard, (2011, p. 65) were used. See Table 11. To measure debt level and asset level, questions formulated by Ersner-Hershfield, Garton et al. 2009 were used. See Table 11. Measurement for partnered status and family size were taken from previous research (Grinstein-Weiss, Chowa, & Casalotti, 2010; Han & Sherraden, 2009; Grinstein-Weiss, Wagner, & Ssewamala, 2006). See Table 11. Measurement for childhood SES was taken from a previously used scale (Kuppuswamy, 2016). See Table 11. Measurement for childhood perception of parent's saving practice was based upon work done by Gudmunson and Danes (2011). See Table 11. Control variables were prioritized by importance for the study, with the preferential order as follows: perception of parent's saving practice, childhood SES, asset level, debt level, income level, age, gender, educational attainment, family size, partnered status, and race. Control variable correlations were checked and preferential order of cutoff was determined via correlations and variable relevance to the study. To measure social desirability, the Marlowe-Crowne Social Desirability Scale (M-C2 10) was used (Strahan & Gerbasi, 1972). See Table 12. Lastly, a question was added to capture how the study was completed, either with a computer or a smartphone. See Table 11.

Retrospective Design.

A retrospective post-then-pre-test design was considered for use in the study to measure DV's. Its poor performance in the pilot study resulted in its replacement with a traditional pre-test post-test design for the main study. A retrospective post-then-pre-test design was first considered as a more traditional pre-test post-test design may lead to response shift bias (Howard, 1980; Moore & Tananis, 2009). Response shift bias refers to the changed perspective of the participant answering a question after participating in a study (Nicholson, Belcastro, & Gold, 1985; Klatt & Taylor-Powell, 2005). The internal construct comprehended in a pre-test may be shifted from pre-test to post-test having been potentially impacted by an intervention and thus differs in a post-test (Nicholson, Belcastro, & Gold, 1985). This alteration may impact the results gathered in the traditional pre-test post-test design (Howard, 1980).

The retrospective post-then-pre design allows for the examination of self-reported changes in the same frame of reference as both the present and the past are captured after the intervention has been administered (Marshall, Higginbotham, Harris, & Lee, 2007). In using the retrospective post-then-pre design, "…subjects refer to the same internal construct when completing these measurements and avoid interaction of treatment by measure" (Nicholson, Belcastro, & Gold, 1985, p. 526). Studies have suggested superiority, inferiority, and equality in measurement capacity between retrospective post-then-pre design and pre-test post-test design (Nicholson, Belcastro, & Gold, 1985; Howard, Millham, Slaten, & O'Donnell, 1981).

The strengths of the retrospective post-then-pre-design include reduction or elimination of response shift bias, increased validity, versatility, and convenience (Klatt & Taylor-Powell, 2005). Limitations of the retrospective post-then-pre design included questionable accuracy of the recall period, self-reporting bias, including social desirability and accuracy, cultural contextual questions and more research (Klatt & Taylor-Powell, 2005). Regardless of its limitations, the retrospective post-then-pre-design has been found to be beneficial in capturing self-reported change as it "…avoids pretest sensitivity and response shift bias that result from pretest overestimation or underestimation" (Klatt & Taylor-Powell, 2005, p. 1). However, as the retrospective design was not successful in the pilot study, the more traditional pre-test post-test design was utilized in the main study.

Interventions

Financial education interventions have generally fallen within one of three categories: individual, group, or mass education methodologies (Austin & Arnott-Hill, 2014). Research has suggested individuals' preference for learning aspects of financial management have been through media, informational videos, and brochures (Hilgert & Hogarth, 2003). The study interventions relied on informational videos to follow the rudimentary introduction to theory/information, provide relevant examples, and then invite individual application of the material. The interventions interspersed the video experience with self-reflection questions for participants to answer. Through the use of social psychological tactics of summarizing educational material in one's own words and sharing personal experiences with the material, greater influence on future behavior was believed to be possible (Aronson et al., 2002). In order to activate the desired change, individual application, through the use of introspective questions, was used to reinforce the new target behavior. The interventions were administered entirely online, in a mobile friendly capacity, as numerous individuals' personal access to the Internet is via smartphones. Each of the interactive interventions was professionally designed and described in detail below.

Intervention development.

The interventions development encompassed numerous stages, which included examining interventions used in previous research, outlining key components, organizing ideas, working with a web developer, obtaining community feedback on the videos, revamping the material multiple times based upon the feedback, and finally pulling the most relevant material together in the most coherent manner possible. The process was time consuming and eye opening. As an example, the voice used to relay the information in the videos had to be changed multiple times as community feedback reacted poorly to the voices originally chosen. Another example was the pace at which the videos were set. Community feedback originally felt the material was being relayed too quickly and the instruction tempo had to be slowed.

Previous interventions capitalizing on the use of the incremental theory had done so with the aim of improving educational achievement. The patterns for improvement and stories of success were rerouted into use for explaining everyday personal financial saving viewpoints. Previous interventions capitalizing on the use of future selves theory were highly applicable in the current study and numerous aspects were utilized. The use of explaining future selves, consequences of considering them, as well as guidance into how one can increase one's connection with one's future self were used. Visualization of financial decision-making and its impact on one's future self was an example of an exercise used from previous research. The financial literacy intervention pulled from previously constructed material (AICPA, n.d.) developed for a college student audience. Some components were not relevant to the current study, while other components were highly relevant. The portions that were utilized focused on budgeting, credit decisions and retirement saving practices.

As previously stated, development of the interventions was an extensive process of approximately six months. As ideas were formulated, each was then outlined, and later re-outlined several times. At that point, work began with a web developer. The web developer helped to bring energy and life to the outlined concepts. The use of animation and pictures allowed for a measure of edutainment in teaching the material. However, after numerous community volunteers previewed the material, there were extensive suggestions for improvement of the videos. One of the suggestions was to include an auditory component to the video. Different voices were tried and feedback suggested a young strong conversational male voice was the best received. The videos were altered to include this style voice. Other suggestions included simplification of the material being taught, as well as a decreasing of the video speed. Other suggestions involved when and how to use printed words in conjunction with animation and pictures to relay the material. Each of the suggestions and concerns were examined and discussed and as feasible, implemented for improvement of the intervention material. This involved numerous rewrites to the material, the animation, the pictures, and the script for the auditory component. It involved extensive work on the part of the web developer and IT specialist, Steven Siddoway, as well as repeated retakes of the auditory portion, with the voice over ultimately provided by Christian Greenman.

Incremental saving intervention.

The incremental saving intervention material drew on components found in previous incremental theory introduction research (Aronson et al., 2002; Good et al., 2003). The intervention also addressed many of the processes of change, as well as the decisional balance, and self-efficacy that are considered critical components of helping individuals move through the TTM stages of change (Nigg et al., 2005). The intervention consisted of training material including the following: explanation of implicit theory spectrum, stories of application, and tools to rethink one's saving capacity.

The incremental saving intervention opened with an explanation of the entity and incremental theory spectrum to listen to / read, followed by self-reflection questions such as, "Where have you fallen in the past on the fixed to growth saving spectrum?" Following was a section on financial challenges to read / listen to. The section on financial challenges concluded with the self-reflection question, "If I start looking at my own financial saving challenges as an opportunity to grow, what will be different in my life?" The next sections introduced self-improvement vignettes, followed by a self-reflection question, "As I begin saving money for what I want, how will my life be different?" The concluding section discussed saving muscles and concluded with the self-reflection question, "How can I practice saving more of my money for the things I want?" The answers to the self-reflection questions provided richness in understanding participant internalization of the material.

Future financial-self intervention.

The future financial-self intervention was based upon future self-continuity manipulations utilized in previous studies by Hershfield, Cohen et al. (2012), Hershfield, Goldstein et al. (2011), and well as Bryan and Hershfield (2012). The intervention consisted of training material including the following: explanation of present and future selves theory, stories of application, and tools to connect with one's future self.

The intervention opened with an explanation of one's present and future self to listen to / read. This information was followed by several self-reflection questions, such as “What money choice, are you making right now that is good for your future? Following was a section on connecting with one’s future self to listen to / read, followed by self-reflection questions. One of the self-reflection questions was, “What would you like to buy next year?” Following was a section on tools to improve self-continuity to listen to / read, followed by a self-reflection question. The self-reflection question was, “Think about a money choice in your life and pretend you are a fly on a wall watching you make that decision. What advice would you give yourself?” Following was a section on impact stories to listen to / read, followed by self-reflection questions. One of the self-reflection questions was, “What do you want in your financial future?” This section was followed by an age progression exercise (Hershfield et al., 2011), which was followed by self-reflection questions tapping into personal financial responsibilities. An example of these self-reflection questions was, “What money choices does your future 5-year older self want you to make now?” This intervention was completed with a short summary of the material, followed by a self-reflection question. The self-reflection question was, “What are you going to do today for your future financial self?” The answers to the self-reflection questions provided richness in understanding participant internalization of the material.

Basic financial literacy intervention.

The basic financial literacy training intervention was loosely based on the Getting Financially Fit presentation (AICPA, n.d.) with the addition of self-reflection questions to help internalize the material. The intervention consisted of training material including the following information: budgeting practices, credit decisions, and retirement savings. The intervention opened with addressing budgeting and was outlined as follows:

budgeting information to listen to / read and a budgeting self-reflection question to answer. The budgeting self-reflection question was, "If I started budgeting all of my money all of the time, how would my life be different?" As research suggested individuals prefer to conceptualize budgets informally and in a short-term context, such as a on a monthly basis or less (Hilgert & Hogarth, 2003), the intervention approached budgeting within these contexts.

To address credit decisions, accessing cash was introduced. Accessing cash was outlined as follows: the various aspects of accessing cash information to listen to / read, accessing cash vignettes to listen to / read, and an accessing cash self-reflection question to answer. The accessing cash self-reflection question was, "How will my life improve if I begin to prepare for financial emergencies today?"

To address retirement savings, a section on retirement savings was outlined as follows: retirement savings information was presented to listen to / read, a retirement saving vignette to listen to / read, and a self-reflection question to answer. The intervention concluded with the retirement savings self-reflection question, "What change could I make to save more of my money for retirement?" The answers to the self-reflection questions provided richness in understanding participant internalization of the material.

Control Material.

The control material consisted of segments of *Crash Course Economics*, which were economics videos, structured to help viewers understand the basic aspects of economics. The videos explained concepts such as an introduction to economics, specialization and trade, economic systems, macroeconomics, monopolies and anti-competitive markets, as well as game theory and oligopolies (CrashCourse, 2015). The material exposed listeners to broad financial issues through the topic of economics, though did not specify personal financial management issues, such as saving practices. For this reason, it was a suitable selection for control material in the current study. The control material varied in length dependent on its need in the study. The control group received up to six videos spliced together, as needed to equal the forty-five minute block of material. The single intervention group needed thirty minutes of control material and received up to four videos spliced together, as needed to meet the filler time. The combo intervention group needed fifteen minutes of control material and received up to three videos spliced together, as needed to meet the filler time.

Chapter 5: Pilot Studies

The two pilot studies are examined including participants, procedures, coding, descriptive statistics and analyses. Changes for the main study, resulting from the pilot studies are discussed. The variables and interventions used are referenced previously in Methodology. The measures used are referenced previously in Methodology, utilizing the post-reflective design. See Tables 5, 7, 11, 12, 13 and Figures 1, 2. Based on performance of the post reflective design in the pilot studies, it is replaced with the pre-test post-test design for the main study.

Pilot Study 1

Participants.

The participants for the pilot study were taken from the twelve employees of Dialysis Clinic Incorporated, twelve employees of an ARCO am pm franchise, nine employees of The Reno Dentist, and seven employees of High Desert Endodontics, resulting in a potential of forty participants. See Appendices F, G, I, J for company invitations to participate and Appendices T, U, W, X for participation acceptance letters. See Appendix AJ for participating companies detailed information.

Procedure.

The companies were recruited for participation in the study. Originally, DCI and ARCO were the first companies recruited for participation (See Appendices T, V). However, after sending out the first invitation (see Appendix A) to DCI and ARCO employees with no response, it was determined to invite additional companies to participate in the study. The Reno Dentist and High Desert Endodontics were recruited to participate. See Appendices X, Y. Each of the companies sent out the invitation to their qualified employees. Qualified employees were those who earned $30 hour or less. Employee participants were offered a $20 incentive for participation in the pilot study. Employees interested in participating in the study were asked to email their name to receive a study link. Only one response was received. For this reason, a revised pilot study invitation was created and each of the participating companies: ARCO, DCI, High Desert Endodontics, and The Reno Dentist, were contacted and arrangements were made for distribution of the revised invitation to their employees. With the revised invitation, participants were given the option to text or email their name if they desired to participate in the study. Those employees interested in participating contacted the researcher via text or email.

As the researcher received requests to participate, the online tool, Random Number Generator (n.d.) was used to immediately assign participants to one of four groups. See Figure 5. Each participant was then texted or emailed a coded link specifying the participant to their assigned group. This link connected them to their group's online material. The material for group P included an introduction followed by exposure to forty-five minutes of the control material and control material questions. Following exposure to the control material, post-reflective test of the DVs, a Marlowe Crown Scale, and demographic questions completed the material. See Tables 11, 12, 13, 14, Figure 5, and Appendix C.

Simultaneous with Group P, participants of group Q first viewed the face page introduction and were then exposed to thirty minutes of the control filler and control material questions. This was followed by fifteen minutes of the incremental saving intervention and incremental saving questions, which served to capture intervention internalization and manipulation check. Following this intervention, post reflective tests of the DVs, a Marlowe Crown Scale, and demographic questions completed the material exposure. See Tables, 11, 12, 13, 15, Figure 5, Appendix C.

Simultaneous with groups P and Q beginning treatment, participants of group R received fifteen minutes of the control filler, and thirty minutes of a combined intervention which consisted of both an incremental saving introduction (fifteen minutes) and a future financial selves introduction (fifteen minutes). Following each portion of the intervention, questions captured intervention internalization and manipulation check. Following the complete intervention, post reflective tests of the DVs, a Marlow Crowne Scale, and demographic questions completed the material exposure. See Tables 11, 12, 13, 16, Figure 5, Appendix C.

Simultaneous with Groups P, Q, and R beginning treatment, participants of group S received a tri-fold combined forty-five minute intervention of an incremental saving introduction (fifteen minutes), a future financial selves introduction (fifteen minutes), and a basic financial literacy training (fifteen minutes). Following each portion of the intervention, questions captured intervention internalization and manipulation check. Following this complete intervention, post reflective tests of the DVs, a Marlow Crowne Scale, and demographic questions completed the material exposure. See Tables 11, 12, 13, 17, Figure 5, Appendix C.

As referenced, each of the groups received post reflective tests of the DV, demographic questions as well as a social desirability scale. See Tables 11, 12, 13. Additionally, each participant in the pilot study was asked to offer feedback on the study, following its completion, and was then debriefed. See Appendix E. An example of two of the feedback questions were, “What was confusing about the study?” and “How can the study be improved?” See Table 18 for the complete pilot study question list. Through the gathering of responses to test questionnaires and intervention material, improvements in clarity were made to the study material (Aronson, et al., 1998). Following study completion, employers were given the $20 incentive pay in the form of a check to distribute to each employee participant. Enclosed with the check was a study debriefing form. See Appendix D.

Results.

Of the forty potential employee participants, there were six employee participants, four of which completed the study. There was one employee participant from ARCO, one employee participant from The Reno Dentist, and two employee participants from High Desert Endodontics. There were no employee participants from DCI. The participant responses were coded from worded responses to numerical responses for all the DV, IV, and control material. There were not sufficient participants to address missing data. There was not sufficient data to perform descriptive statistics, though the data was examined fully in Appendix AL describing the adapted scales and demographic information.

Analyses.

There were not sufficient participants to conduct traditional analyses of the data. Although participants were small in number, there were some valuable findings in examination of the pilot study data. See Appendix AL for the in depth examination of the pilot study data.

One of the findings was how few of the potential employee participants agreed to use free time (non-work time) to participate in the study. It was determined that in the main study, it would be more beneficial to incentivize the employers, rather than the employees, for the employees to complete the study during work time. This change was cleared with the IRB and a revised face page was approved. See Appendix C. Additionally, a letter was sent to the two pre-identified companies in the main study to elicit their support for the change. See Appendix AI. Both companies approved of the change and future companies for the main study were recruited with this option. It was also determined to further revise the invitation for the main study. See Appendix B.

Due to the apparent confusion and incomplete answers with the post reflective questionnaire format, the decision was made for the main study to replace the post reflective design with the pre-test post-test design.

An additional finding was the loss of valuable information with regard to how participants were affected by the interventions. It was determined for the main study that a pre-test would be added before each of the interventions and the post-test would remain after each of the interventions. Likewise, a pre-test was also added before and after each of the control videos in order to maintain consistency between material exposure and questionnaires. See Table 10. Manipulation questions were created for after each of the intervention and control videos. See Table 9.

It was also discovered some of the questions flowed positive to negative. These questions were flipped in alignment with all other study questions, negative to positive. See Table 5. Another of the findings was a technical error in which a portion of the Financial Savings URICA questionnaire was cut out leaving only ten of the twenty-four questions for participants to answer. Additionally, the four Saving Intent questions were also cut out of the online material. Catching this technical difficulty in the pilot allowed for it to be remedied in the main study. Other than the technical difficulties, the scales, adapted scales and demographic question performances appeared adequate.

Verifying the interventions had the desired effect on subjects in the pilot study, and / or learning the changes, which needed to be made to the interventions strengthened their effect during the study (Aronson, Wilson, & Brewer, 1998). Verifying the questionnaire questions were understandable, clear, and relatively easy to answer in the pilot study, and / or making changes to produce the needed clarity ensured ease of response for participants during the study (Schwarz, Groves, Schuman, 1998). The pilot study was quite informative in bringing about needed changes to improve clarity.

Pilot Study 2

A second pilot study was attempted to correct the technological errors which removed some of the transtheoretical stages of saving change questions as well as all of the financial saving intent questions. It was expected the revised online material would be presented in full to any participants.

Participants.

The participants of the second pilot study were taken from the employees of Tahoe Carson Radiology. See Appendix K for the invitation, Appendix Z for the acceptance letter, and Appendix AJ for detailed company information. One employee agreed to participate and was assigned to group P.

Procedure.

Tahoe Carson Radiology distributed invitations to their employees to participate in the pilot study using the revised pilot study invitation offering employees $20 for participation in the study. Those employees interested in participating contacted the researcher via text or email. One employee participant requested to participate. The online tool, Random Number Generator (n.d.) was used to immediately assign the participant to one of four groups. See Figure 5. The participant was then texted or emailed a coded link specifying the participant to their assigned group. This link connected the participant to their group's online material. The procedure followed the same format as used in pilot study 1.

Results.

As only one employee participant requested to participate, and did not begin, nor complete the study, there was no analysis possible for the second pilot study. Instead, it was determined to move on to the main study. With the poor response by employees to use free time to complete the study, it was determined in the main study, to incentivize the employers for the use of the employees' work time to complete the study.

Chapter 6: Data and Descriptive Statistics

The participants and group assignment are referenced. The variables, measures, and interventions utilized are referenced in Methodology. Pre-test post-test design was used for IV's and DV's. The procedure is outlined. Data coding, missing data, analysis of adapted scales, and descriptive statistics are examined. See Table 33 for study scales and response options.

Participants

Ultimately there were eighty participants who completed the study. Initially, there were eighty-five participants who completed the study: forty-three employees from Tahoe Fracture and Orthopedic Clinic, nine employees from Advanced Supply Chain Logistics, nine employees from LP Insurance, eight employees from PBS West, four employees from Stedham Electronics, four employees from Valley Veterinary Clinic, three employees from Yoga Pod, three employees from Carson City Endodontics, one employee from Orthodontic Partners, and one employee from Carpenters Music World. However, five of these participants left sizable data gaps in one or more of the DV's and had to be excluded, resulting in a total of eighty participants. There were also an additional five employees from Tahoe Fracture and Orthopedic Clinic, four employees from PBS West Billing, two employees from Carpenters Music World, three employees from LP Insurance and one employee from Advanced Supply Chain Logistics who began, but did not complete the study. See Appendix AK for detailed company information.

Procedure

Invitations were first sent to local employers. See Appendices E, H, L, M, N, O, P, Q, R, & S. The companies, which agreed to participate in the study, sent back a letter of acceptance to participate in the study. See Appendices U, W, AA, AB, AC, AD, AE, AF, AG, & AH. Following company acceptance for employees to participate in the study, employee invitations were then sent to company administration. See Appendix C for the invitation to participate. Administration for each company distributed the invitation to each of their employees meeting the criteria for participation. The criteria for participation, was earning $30 or less an hour. Those employees pre-identified as meeting the necessary criteria who were interested in study participation responded to the invitation to participate via an email or text to the researcher.

Group Assignment.

The researcher randomly assigned participants into one of the four groups: P, Q, R or S using the online tool Random Number Generator (n.d.). Once an employee was assigned to a group, the employee's specified link was emailed or texted to the employee to participate in the study. In this way, correspondence for the study occurred through email exchange and an online web application. The eighty participants who completed the study were evenly distributed between the four groups (P, Q, R, S) for a total of twenty participants per group. This had been achieved using the Random Number Generator (n.d.) until the end of the study, when there was a surplus of Group P and Group S participants assigned, and a deficit for Group Q and Group R assigned. This problem was remedied by oversampling Groups Q and R until the numbers were even. There were an additional four participants in Group P, three participants in Group Q, five participants in Group R, and three participants in Group S who did not complete the study.

Invitations.

Early in the study, it had been assumed there would be sufficient employee participants from the two original participating companies, PBS West and Tahoe Fracture and Orthopedic Clinic, which had one hundred and thirty seven qualifying employees between them. See Appendices U, W. However, after inviting each of these participating companies qualifying employees to participate, the target number of participating employees had not yet been met. Due to this, additional companies were recruited to participate in the study. The additional companies, which joined the study, were: Advanced Supply Chain Logistics, Carpenters Music World, Carson City Endodontics, LP Insurance, Orthodontic Partners, Stedham Electronics, Valley Veterinary Clinic, and Yoga Pod. The additional companies provided a total of one hundred ninety one additional potential participants. See Appendices L, M, N, O, P, Q, R, & S for invitations and AA, AB, AC, AD, AE, AF, AG, & AH for acceptance letters.

Procedure.

Each employee participant received a group specific web address link, which enabled participants to access their specified group material. Random assignment equalized the participants for purposes of the study (Aronson et al., 1998; Wilson et al., 2010). This was made possible through elimination of the threats to internal validity: selection, maturation, history, instrumentation, mortality, etc. (Judd, Smith, & Kidder, 1991). Random assignment (and repetition) also allowed for a degree of confidence that interventions had the potential to cause changes in the dependent variable (Judd, et al., 1991).

Each participant in each group first read through the informative face page of the study. See Appendix C. Following this, the groups received the pre-test questions to capture a base level for the DV. Following the pre-test, the groups received exposure to 45 minutes of material with interventions administered in blocks of fifteen minutes each. The control filler was used for remaining time as needed to equal forty-five minutes of total material exposure time for each group. Pre and post questions were also given for each of the interventions and control material. See Table 10. Following the intervention / control material exposure, the groups each received the post-test questions to capture any change in the DV. See Tables 1, 3. In conclusion, a Marlow-Crowne Social Desirability Scale and demographic questions completed the study (see Tables 11, 12) and participants were thanked for their participation in the study. Following completion of the study, a full debriefing of the study was offered. See Appendix D. Additionally, the reimbursement of $20 for each employee's time to complete the study was sent to the employer.

Group P was the control group with no intervention exposure. After answering pre-test questions, participants received exposure to the control material filler of basic and broad based economic information for the duration of forty-five minutes. Following exposure to the control material and control material questions, a post-test was administered to capture DV impact. See Tables 1, 3, 10 and Figure 5. Additionally, a Marlow-Crowne Social Desirability Scale and demographic questions were also administered. See Tables 11, 12.

Group Q was the group with one intervention exposure. After answering pre-test questions, participants were given thirty minutes of control filler and control filler questions, followed by fifteen minutes of the incremental saving intervention and incremental saving questions to serve as intervention internalization. Following this intervention, a post-test to capture DV impact, a Marlow-Crowne Social Desirability Scale and demographic questions were administered. See Tables 1, 3, 5, 10, 11, 12 and Figure 5.

Group R was the group with exposure to two interventions. After answering pre-test questions, participants were given fifteen minutes of control filler and control filler questions. This was followed by thirty minutes of the intervention consisting of both the incremental saving intervention (fifteen minutes) and the future financial self-intervention (fifteen minutes). These interventions were each followed by the incremental saving questions and future financial self questions, which served as intervention internalization. Following the interventions and intervention questions, a post-test to capture DV impact, a Marlow-Crowne Social Desirability Scale and demographic questions were administered. See Tables 1, 3, 5, 10, 11, 12 and Figures 1, 2, 5.

Group S was the group with exposure to all three of the interventions. After answering pre-test questions, participants were given a full 45-minute intervention. The intervention consisted of the incremental saving intervention (fifteen minutes), the future financial-self intervention (fifteen minutes), and the basic financial literacy training (fifteen minutes). Following each of the interventions, the intervention questions were administered to serve as intervention internalization. Following the three interventions and associated questions, a post-test to capture DV impact, a Marlow-Crowne Social Desirability Scale, and demographic questions was administered. See Tables 1, 3, 5, 7, 10, 11, 12 and Figures 1, 2, 5.

Following study completion for each of the four groups P, Q, R, S, the participating companies received their incentive check to either reimburse for employees' work time to complete the study or to pass on to employees if the study was completed during non-work time. Participants also received a debriefing letter answering questions regarding the study and offering contact information for any further questions. See Appendix E for the debriefing form. Participants whose names were drawn for the (5) $50 Amazon Gift Certificates were given to company administration to distribute to employees. Participating companies and interested employee participants also received a copy of the study findings.

Coding

Data were coded from the worded scales used by participants into the corresponding numbers associated with the scale. Coding of the data was executed as follows. Table 33 presents the data coding for all study variables. *Stages of Saving Change* pre-test and post-test material. See Table 1. *Intent to Save*, pre-test and post-test material. See Table 3. *Incremental Saving Intervention*, pre-test and post-test material, as well as the one manipulation check question. See Tables 5, 9. *Future Selves Intervention*, pre-test and post-test material, as well as the one manipulation check question. See Figures, 1, 2, and Table 9. *Financial Literacy Introduction,* pre-test and post-test material, as well as the one manipulation check question. See Tables 7, 9.

Marlow-Crowne Social Desirability Short Scale questions. See Table 12.

Demographics. See Table 11.

Missing Data

Five of the subjects completed the study, but did not answer large sections of the DV measures. These subjects were trimmed from the study. The remaining data was then tested for missing data completely at random using the Little's MCAR test. The data passed, with a significance level of .978. The data was then tested for each scale, using the Little's MCAR test prior to expectation maximization data imputation.

In order to ensure the best possible inputs for the missing data, the DV Stages of Saving Change were divided into the four subscales (six questions each) of pre-contemplation, contemplation, action, and maintenance for both the pre-test and post-test data. For the Stages of Saving Change pre-test, the MCAR test score was: $p=.92$ for the pre-contemplation subscale, $p=.79$ for the contemplation subscale, $p=.30$ for the action subscale, and $p=.90$ for the maintenance subscale. For the Stages of Change post-test, the MCAR test score was: $p=.11$ for the pre-contemplation subscale, $p=.79$ for the contemplation subscale, $p=.30$ for the action subscale, and $p=.90$ for the maintenance subscale. Expectation maximization was employed for the missing data.

Expectation maximization was also used on the second DV, Intent to Change scale, pre-test and post-test. The Intent to Save pre-test MCAR score was $p=.96$. The Intent to Save post-test MCAR score was $p=.00$. To test the scale, one of the questions ("I plan to save money within the next twelve months.") was removed from the scale and it was retested with only four of the five scale questions, for a new MCAR score of $p=.997$, with five missing values in the four prior questions . The removed question had only 1 missing value. As it was a DV in the study it was determined to utilize expectation maximization on the entire post-test scale, to replace the six total missing values from the entire scale.

The IV Incremental Saving Change had no missing data, and needed no data imputation. The IV Future Financial Self had missing data. When tested only for the participants who were assigned to receive the exposure, the MCAR score was p=.56, thus qualifying for expectation maximization data input. The IV Financial Literacy Training had missing data for the pre-test. When tested only for the participants who were assigned to receive the exposure, the MCAR score was p=.90, thus qualifying for expectation maximization data input. The IV Financial Literacy Training post-test had no missing data.

The Marlow-Crowne Social Desirability Short Scale MCAR score was p=.03, so it was also deemed unsuitable for expectation maximization. However, as it was important to rule out the potential interference of social desirability within the study, it was determined to still utilize expectation maximization to replace the four missing values from the scale.

Prior to testing the demographic variables for expectation maximization, two outliers were removed for a subject, which had specified there were thirty adults in the household as well as forty-seven children in the household. Following this removal, the demographic information MCAR score was, p=.46 and expectation maximization was employed. However, one of the demographic variables, debt registered as fifteen percent missing data so the imputed data should be interpreted with caution. Additionally, once expectation maximization had been utilized, one of the debt replacements was categorized as a negative number. As there were no negative debt answer choices, the problem was remedied by the removal of the negative sign, but maintaining the replacement value of 29,078. All other demographic variables scored in the zero, one, or two percent missing values.

Analysis of Adapted Scales

As the DV scales and two of the IV scales had been adapted for use in the study, a Cronbach's alpha reliability analysis was performed to determine the reliability of the adapted scales. In total, a reliability analysis was performed on four different scales, using both the pre-test and post-test responses.

Reliability Analysis.

The twenty-four items from the pre-test of the DV Stages of Saving Change, *Measurement of Stages of Change Related to Personal Financial Savings* scale were used to perform a reliability analysis on the pre-test material. The Cronbach's alpha demonstrated acceptable reliability, α=.79. The twenty-four items from the post-test use of the *Measurement of Stages of Change Related to Personal Financial Savings* scale, were used to replicate the performance of the reliability analysis. The Cronbach's alpha demonstrated acceptable reliability on the post-test data, α=.82.

The five items from the DV Intent to Change, *Intent to Change* scale were used to perform a reliability analysis on the pre-test material. The Cronbach's alpha demonstrated acceptable reliability, α=.94. The five items from the post-test use of the *Intent to Change* scale were used to replicate the performance of the reliability analysis. The Cronbach's alpha demonstrated reliability on the post-test material, α=92.

The four items from the IV Incremental Saving Intervention, *Theories of Financial Saving Scale* were used to perform a reliability analysis on the pre-test material. The Cronbach's alpha demonstrated acceptable reliability, α=.82. The four items from the post-test use of the *Theories of Financial Saving Scale* were used to replicate the findings. The Cronbach's alpha demonstrated reliability on the post-test material, α=.92.

The four items from the IV Financial Literacy Training *Financial Fitness Instrument-Adapted for Employees* pre-test scale were used to perform a reliability analysis on the pre-test material. The Cronbach's alpha demonstrated acceptable reliability, α=.88. The four items from the post-test use of the *Financial Fitness Instrument-Adapted for Employees* scale were used to replicate the findings. The Cronbach's alpha demonstrated acceptable reliability, α=.93.

Principal Components Analysis.

Following the alpha reliability analysis, a principal components factor analysis was also performed on the DV scales used in both the pre-tests and the post-tests. It must be noted that the assumption of sample size was violated for this test, as there were only 80 or fewer participants and thus there was less reliability, as well as decreased strength of the variable correlations.

The principal components analysis performed on the Stages of Saving Change, *Measurement of Stages of Change Related to Personal Financial Savings* **pre-test** scale met the assumption of KMO, .78 and the Bartlett's test was significant, $p<.05$. The factors loaded on two intended components of the original scale pre-contemplation/contemplation and action/maintenance. See Table 19. The principal components analysis performed on the Stages of Saving Change, *Measurement of Stages of Change Related to Personal Financial Savings* **post-test** scale met the assumption of KMO, .79 and the Bartlett's test was significant, $p<.05$. The factors loaded on two intended components of the original scale, pre-contemplation/contemplation and action/maintenance). See Table 20.

Descriptive Statistics

Following Cronbach's alpha reliability analysis and principal components analysis, the DV Stages of Change were sub scaled, the Readiness for Change Scores were tallied, and the differences between the pre and post scores were determined. The DV Intent to Change was also tallied for the pre-test and the post-test scores and the differences between the scores were determined. Additionally, the IV's: Incremental Saving Intervention, Future Financial Self, and Financial Literacy Training pre-test and post-test scores were also tallied and the differences were established. Lastly, the Marlow-Crowne Social Desirability Short Scale score was computed. The data was examined for descriptive statistics, including the DVs, IVs, manipulation checks, and control variables. The minimum, maximum, range, mean, and standard deviation were reported. See Table 21.

DVs.

The Stages of Saving Change *Readiness to Change* Score cutoffs were as follows: Pre-contemplation = 8 or lower, Contemplation = 8-11, Preparation or Action = 11-14. The Stages of Saving Change *Readiness to Change* **Pre-Test** score range was 8.57, from 4.43 to 13, M=9.37, SD=1.91. A mean of 9.37 implies that on average, participants came into the study within the contemplation to save range. The Stages of Saving Change

Readiness to Change **Post-Test** score range was 8.80, from 5 to 13.81, *M*=9.6, *SD*=2.11. A mean of 9.6 implies that on average, participants finished the study having moved higher within the contemplation to save range. The Stages of Saving Change *Readiness to Change* **Difference Between Pre-Test and Post-Test** scores range was 7.73, from -3.56 to 4.17, *M*=.23, *SD*=1.19. A mean of .23 implies on average, participants experienced a clear, though small, positive movement through the Stages of Saving Change. See Table 21. See Table 32 for group means.

Intent to Save **Pre-Test** Score range was 14, from 11 to 25, *M*=20.79, *SD*=2.95. Intent to Save **Post-Test** score range was 10, from 15 to 25, *M*=21.09, *SD*=2.78. Intent to Save **Difference Between Pre-Test and Post-Test** scores range was 11, from -5 to 6, *M*=.30, *SD*=2.47. A mean of .30 implies that on average, participants experienced a clear, though small, positive movement in Intent to Save. See Table 21. See Table 32 for group means.

IVs.

Incremental Saving Intervention **Pre-Test** score range was 20, from 4 to 24, *M*=11.23, *SD*=4.66. Incremental Saving Intervention **Post-Test** score range was 20, from 4 to 24, *M*=9.43, *SD*=4.97. Incremental Saving Intervention score decreases indicated an increased rejection of the idea that one cannot improve one's financial saving ability. Incremental Saving Intervention **Difference Between Pre-Test and Post-Test** scores range was 25, from -13 to 12, *M*=-1.8, *SD*=4.39. A mean of -1.8 implies that participants on average experienced a clear increased rejection of the idea that one cannot improve one's financial saving ability. Incremental Saving Intervention Manipulation Check Question score range was 4, from 2 to 6, *M*=5.24, *SD*=.8. A mean of 5.24 implies participants on average chose answer option “Agree” for the question “As you take small steps to grow your saving practices, you can reap large rewards”. See Tables 9, 21.

Future Financial Self Intervention **Pre-Test** score range was 18, from 10 to 28, *M*=21.2, *SD*=4.21. Future Financial Self Intervention **Post-Test** score range was 17, from 11 to 28, *M*=21.77, *SD*=4.26. Future Financial Self Intervention **Difference Between Pre-Test and Post-Test** scores range was 16, from -6 to 10, *M*=.57, *SD*=2.8. A mean of .57 implies that participants on average experienced a clear, though small, positive movement toward greater connection with future self. Future Financial Self Intervention Manipulation Check Question score range was 3, from 4 to 7, *M*=6.3, *SD*=.97. A mean of 6.3 implies participants on average chose answer option “Agree” for the question “When we feel more connected to our future self, we prepare more for our future”. See Tables 9, 21.

Financial Literacy Training **Pre-Test** score range was 5, from 15 to 20, *M*=18.34, *SD*=1.83. Financial Literacy Training **Post-Test** score range was 6, from 14 to 20, *M*=18.1, *SD*=2.08. Financial Literacy Training **Difference Between Pre-Test and Post-Test** scores range was 6, from -3 to 3, *M*=-.24, *SD*=1.21. A mean of -.24 implies that participants on average experienced a clear, though small, negative movement with financial literacy. This decrease may suggest the financial literacy training led to an average decrease in financial literacy or it may suggest the training brought greater awareness to participants financial literacy and post-test answers were more informed than pre-test answers. Financial Literacy Training Manipulation Check Question score range was 1, from 4 to 5, *M*=4.55, *SD*=.51. A mean of 4.55 implies participants on average chose answer option “Agree” for the question “Financial preparation now can help me in the future”. See Tables 9, 21.

Control Variables.

Marlow-Crowne Social Desirability Short Scale score range was 8, from 2 to 10, *M*=6.85, *SD*=1.97. Gender range was 1, from 1 to 2, *M*=1.11, *SD*=.32. Gender, 1=female, 2=male. Age range was 44, from 21 to 65, *M*=35.73, *SD*=13.43. Age range was identified by participant, followed by average of each chosen range calculated and input for age. Marital Status range was 2, from 1 to 63, *M*=1.69, *SD*=.76. Marital Status, 1=married, 2=single, never married, 3=divorced, separated, or widowed. Number of Adults in the Household range was 6, from 0 to 6, *M*=2.21, *SD*=.99. Number of Children in the Household range was 9, from 0 to 9, *M*=1.18, *SD*=1.59. Race range was 3, from 1 to 4, *M*=1.75, *SD*=1.07. Race, 1=White, 2=Black, 3=Hispanic, 4=Asian or Other. Education Level range was 3, from 2 to 5, *M*=3.11, *SD*=.77. Education Level, 1=did not complete high school, 2=graduated high school, 3=some college, 4=graduated college, 5=graduate or advanced degree. See Table 21.

Household Income range was $135,000, from $15,000 to $150,000, *M*=$60,503.27, *SD*=$36,750. Financial Assets range was $149,750, from $250 to $150,000, *M*=$38,606.09, *SD*=$50,961.19. Financial Debt range was $149,750, from $250 to $150,000, *M*=$49,384.06, *SD*=$52,602.85. Income, Asset, and Debt ranges were identified (see Table 11), then the average of each chosen range was calculated and input for Income, Assets, and Debt. Assets, and Debt choice options began at 0-$500 and ended at more than $150,000. Income choice options began at less than $15,000 and ended at $150,000 and over. The bottom and top participant identified range options were used in lieu of an averaged range. See Table 11. Note there was 15% missing data for Financial Debts, which was imputed via expectation maximization and statistics should be interpreted with caution. See Table 21.

Participants Parents SES when Participants were Children range was 3, from 2 to 5, *M*=3.29, *SD*=.9. Participants Parents SES when Participants were Children, 1=upper class, 2=upper middle class, 3=middle class, 4=lower middle class, 5=lower class. Participants Perception of How Well Their Parents Saved Money as Children range was 4, from 1 to 5, *M*=2.76, *SD*=1.38. Participants Perception of How Well Their Parents Saved Money as Children, 1=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree. The Use of a Computer or a Smartphone to Complete the Study range was 1, from 1 to 2, *M*=1.14, *SD*=.35. The Use of a Computer or Smartphone to Complete the Study was 1=computer, 2=smartphone. See Table 21.

Chapter 7: Results

Correlations between all study variables were examined. Results are summarized in Tables 22 and 23. The hypotheses were tested using regression and ANOVA. Results are summarized in Appendix AM. Findings are highlighted.

Correlations

DVs.

As the hypotheses were one-direction construction, Pearson correlations were calculated one-tailed, at both the .05 and the .01 level for all DV, IV, and control variables. See Tables 22 and 23.

Stages of Saving Change.

The DV Stages of Saving Change correlated significantly and positively with DV Intent to Save, $r = .25$, $p < .05$. See Tables 22 and 23.

Intent to Save.

Intent to Save correlated significantly and negatively with Incremental Saving Intervention, $r = -.24$, $p < .05$. Note Incremental Saving Intervention score decrease indicated an increased rejection of the idea that one cannot improve one's financial saving ability. This correlation may suggest participants who decrease in the belief that saving behavior cannot improve, may increase in saving intent.

Intent to Save correlated significantly and positively with Parents SES, $r = .21$, $p < .05$ implying respondents who indicated their parents belonged to a lower social class as children indicated a higher intention to save money. Intent to Save correlated significantly with the Use of a Computer or Smartphone to Complete the Study, $r_{pb} = -.20$, $p < .05$. There was a negative correlation between Intent to Save and Use of a Computer or Smartphone. Note Use of a Computer or Smartphone was a categorical variable (1=use of a computer, 2=use of a smartphone). See Tables 22 and 23.

IVs.

Incremental Saving Intervention.

The IV Incremental Saving Intervention score correlated significantly and positively with Age, $r = .22$, $p < .05$. This correlation may suggest the Incremental Saving Intervention could have a greater influence on younger participants than on older participants. See Tables 22 and 23.

Future Financial Self.

The IV Future Self did not correlate significantly with any of the variables. See Tables 22 and 23.

Financial Literacy Training.

The IV Financial Literacy Training correlated significantly and negatively with Household Income, $r = -.45$, $p < .05$. This correlation may suggest the Financial Literacy Training could have a greater influence on those with lower household incomes than those with higher household incomes. See Tables 22 and 23.

Control Variables.

Participants' Perception of Parents Saving Practice.

Participants' parents SES as children correlated significantly and negatively with Participants' Perception of How Well Their Parents Saved Money, $r = -.27$, $p < .01$. Participants' Perception of How Well Parents Saved as Children was measured based on participants' answer to "As I was growing up, my parents did a really good job saving money" (1=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree). Participants' Parents SES as Children was measured (1=upper class, 2=upper middle class, 3=middle class, 4=lower middle class, 5=lower class). The negative correlation supports the expectation that participants who grew up at a lower level of SES were more likely to indicate that their parents did not do a good job saving money. See Tables 22 and 23.

Participants' Parents SES.

Participants' Parents SES correlated significantly and positively with The Marlow-Crowne Social Desirability Short Scale score, $r = .22$, $p < .05$. This correlation may suggest participants raised by parents of lower SES portray a higher desire for perception of social desirability. As previously mentioned, Participants' Parents SES as Children was measured (1=upper class, 2=upper middle class, 3=middle class, 4=lower middle class, 5=lower class). Participants' Parents SES correlated significantly with Number of Children in the Household, $r = 41$, $p < .01$. There was a positive relationship between Participants' Parents SES while participant was a child and Number of Children in the participant's household in the present. Participants' Parents SES correlated significantly and negatively with Marital Status (1=married, 2=single never married, 3=divorced, separated, or widowed), $r_b = -.20$, $p < .05$. Participants' Parents SES correlated significantly with Race, $r_{pb} =. 39$, $p <. 01$. There was a positive relationship between Participants' Parents SES and Race. Race was a categorical variable (1=White, 2=Black, 3=Hispanic, 4=Asian or other). See Tables 22 and 23.

Financial Assets.

Financial Assets correlated significantly with Financial Debt, $r = .66$, $p < .01$ and with Household Income, $r = .62$, $p < .01$. Financial Assets correlated significantly and positively with Age, $r = .40$, $p < .01$, negatively with Marital Status (1=married, 2=single never married, 3=divorced, separated, or widowed), $r_b = -.25$, $p < .05$, and with Race, $r_{pb} = -.22$, $p < .05$. Note that Race was a categorical variable (1=White, 2=Black, 3=Hispanic, 4=Asian or other). See Tables 22 and 23.

Financial Debt.

Financial Debt correlated significantly with Household Income, $r = .49$, $p < .01$, Age, $r = .24$, $p <. 05$, and Gender, $r_{pb} = .23$, $p < .05$. Note that Gender was a categorical variable (1=female, 2=male). Financial Debt correlated significantly and negatively with Marital Status (1=married, 2=single never married, 3=divorced, separated, or widowed),

$r_b = -.25$, $p < .05$. It must be noted there was 15% missing data for control variable Financial Debt when expectation maximization was utilized to input missing data for demographic variables. As such, all correlations involving Financial Debt should be interpreted cautiously. See Tables 22 and 23.

Household Income.

Household income correlated significantly with Age, $r = .19$, $p < .05$. There was a positive relationship between Household Income and Age. Household Income correlated significantly with Education, $r_b = .25$, $p < .05$. There was a positive relationship between Household Income and Education Level. Education Level was a categorical variable (1=did not finish high school, 2=graduated from high school, 3=some college, 4=college graduate, 5=graduate or advanced degree). Number of Adults in the Household correlated significantly and positively with Household Income, $r = .28$, $p < .01$. Household Income correlated significantly and negatively with Marital Status (1=married, 2=single never married, 3=divorced, separated, or widowed), $r_b = -.45$, $p < .01$. See Tables 22 and 23.

Age.

Age correlated significantly with Education Level, $r_b = .19$, $p < .05$. There was a positive relationship between Age and Education. As stated previously, education Level was a categorical variable (1=did not finish high school, 2=graduated from high school, 3=some college, 4=college graduate, 5=graduate or advanced degree. See Tables 22 and 23.

Gender.

The control variable Gender was significantly associated with race, $x^2 = .24$, $p < .05$. There was a positive relationship between Gender and Race. Gender was a categorical variable (1=female, 2=male). Race was a categorical variable (1=White, 2=Black, 3=Hispanic, 4=Asian or other). See Tables 22 and 23.

Marlow-Crowne Social Desirability Short Scale.

The Marlow-Crowne Social Desirability Scale score correlated significantly and negatively with the Use of a Computer or a Smartphone to Complete the Study, $r_{pb} = -.29$, $p < .05$. See Tables 22 and 23.

Education.

Education correlated significantly and negatively with Number of Children in Household, $r_b = -.23$, $p < .05$. As noted previously, Education Level was a categorical variable (1=did not finish high school, 2=graduated from high school, 3=some college, 4=college graduate, 5=graduate or advanced degree). See Tables 22 and 23.

Number of Adults in the Household.

Number of Adults in the Household correlated significantly with the Use of a Computer or Smartphone to Complete the Study, $r_{pb} = -.20$, $p < .05$. There was a negative relationship between Number of Adults in the Household and Use of a Computer or Smartphone to Complete the Study (1=use of a computer, 2=use of a smartphone). See Tables 22 and 23.

ANOVA Analyses

Following examination of the descriptive statistics and bivariate correlations, ANOVAs were conducted. A one-way between subjects ANOVA was conducted to compare the effect of the interventions on Stages of Saving Change in the no intervention, one intervention, two interventions, and three interventions conditions. There was not a significant effect of interventions on Stages of Saving Change at the $p<.05$ level for the four conditions [$F(3, 76)=.17$, $p>.05$]. A one-way between subjects ANOVA was conducted to compare the effect of the interventions on Intent to Save in the no intervention, one intervention, two interventions, and three interventions conditions. There was not a significant effect of interventions on Intent to Save at the $p<.05$ level for the four conditions [$F(3, 76)=.31$, $p>.05$].

Regression Analyses

Following examination of the descriptive statistics, group averages, bivariate correlations, and ANOVA results, regression analyses were conducted. Groups Q, R, S were dummy coded (k-1) to compare Groups Q, R, S, which received interventions against group P, which did not. A multiple linear regression was calculated to predict Stages of Saving Change for Dummy Groups Q, R, S, while controlling for perception of parent's saving practice, childhood SES, asset level, debt level, income level, age, gender, social desirability, educational level, family size, partnered status, race, and if the study was taken using a computer or a smartphone. No significant regression equation was found, $F(17, 62)=.45$, $p>.05$

A multiple linear regression was calculated to predict Intent to Save for Dummy Groups Q, R, S, while controlling for perception of parent's saving practice, childhood SES, asset level, debt level, income level, age, gender, social desirability, educational level, family size, partnered status, race, and if the study was taken using a computer or a smartphone. No significant regression equation was found, $F(17, 62)=.71$, $p>.05$. Additional analyses were conducted to test the intervention effect on each of the DVs.

As a result of these analyses and additional analyses using various combinations of variables, including regressing on each of the Stages of Change subscales, it was determined there was not statistical significance for H1, H2, H3, H4, H5, H7, or H8, though there was partial support for the H1, H4, H5, as the average group mean for Stages of Saving Change were larger for Group S than for Group P. See Table 32 and Appendix AM. Additionally, there was partial support for H6, H7, H8, H9, H10 as the average group mean for Intent to save were larger for Group Q than for Group P, larger for Group R than Groups Q, and P and larger for Group S than Groups R, Q, and P. See Table 32 and Appendix AM. There was statistical significance for H6, H9, and H10. See Appendix AM. The following is an account of the statistically significant findings for H6.

Multiple Regression.

Based on the findings in the overall regressions and the bivariate correlations, it was determined to conduct a regression on Intent to Save, using Incremental Saving Intervention, while controlling for Parental SES and Age. Incremental Saving Intervention was chosen as the IV based on the significant correlation between Incremental Saving Intervention and DV Intent to Save. The control variable Parents SES was chosen for its significant correlation to Intent to Save. Parents SES also correlated significantly with several other control variables of interest: Participants' Perception of How Well Their Parents Saved as Children, Marlow Crown Social Desirability Scale, Marital Status, Children in the Household, and Race. The control variable Age was chosen for its significant correlation to IV Incremental Saving Intervention score. Age was also correlated significantly with several other control variables of interest: Household Income, Financial Assets, and Financial Debts, and Education Level.

The data were examined for regression assumptions. The assumption was met of an interval measurement for the DV. The assumption was met of the IV being either continuous or categorical. There were two control variables: Parents SES and Age, both continuous variables. Arguably Parents SES could be approached as categorical as it had five categories. However, the five categories represented a range of SES options, which were fluid with one another (1=upper class, 2=upper middle class, 3=middle class, 4=lower middle class, 5=lower class). For these reasons, Parents SES was used as a continuous variable in the study. Age, it could be argued was placed into the realm of a categorical variable once the mean for each participant's age range was determined and used in lieu of an actual age. However, the use of an averaged age range did produce a number along a spectrum. For these reasons, both variables were used as continuous for the test. The assumption of independence of observations was met, Durbin-Watson =2.03

The assumption of a linear relationship between the dependent variable and each of the independent variables was met for the model in the scatterplot matrix. The assumption of an absence of multicollinearity was met, as there were low correlations (well below .8) between the independent variables in the model. See Table 24. Additionally, the collinearity statistics VIF ranged from a 1.00 to 1.05, each well below the cutoff score of 10. The tolerance ranged from .95 to .99, well above the cutoff score of .2. Additionally, the assumption of independence of errors was met. The assumption of homoscedasticity was met. The assumption of normally distributed errors was met.

Significant outliers, high leverage point or highly influential points were identified previously and addressed, with the Cook's Distance maximum residual statistic at .16, well below the cutoff score of 1. Additionally, the minimum and maximum values for the standardized residual were -2.69 and 2.03, below the cutoff scores of -3 and 3. See Table 26 for the inter-correlations between the regression variables.

The overall model was significant $F(3, 56) = 3.00$, $p<.05$ and Incremental Saving Intervention accounted for 14% of the variation in Intent to Save $\beta = -.29$, $t = -2.24$, $p < .05$. For each unit decrease in Incremental Saving Intervention *differences between pre-test and post-test scores*, there was a .29 increase in Intent to Save. See Table 25. The decrease in Incremental Saving Intervention differences between pre-test and post-test scores occurred as participants rejected the perception that one's ability to save money was not possible to be improved. As participants rejected the ideology that one's ability to save money was innate and unchanging, the Incremental Saving Intervention differences between pre-test and post-test scores decreased.

Hierarchical Regression.

To build on the findings of the first regression, that Incremental Saving Intervention significantly contributed to an explanation in the variation in Intent to Save, a second regression was constructed. Based on the findings of the initial regression and the previous bivariate correlations, it was decided to conduct a three stage hierarchical regression on DV Intent to Save. It was determined to repurpose the DV Stages of Saving Change into an IV to test on DV Intent to Change. It was also determined to include the Marlow-Crowne Social Desirability Short Scale score to rule out the impact of social desirability on Intent to Save. The first stage included control variables Parents

SES, Age, and Marlow-Crowne Social Desirability Short Scale. The second stage added Stages of Saving Change score as an IV. The third stage added Incremental Saving Intervention score as an additional IV.

As mentioned in the first regression, the control variable Parents SES was chosen for its significant correlation to Intent to Save and the significant correlations with some of the other variables. The control variable Age was chosen for its significant correlation to IV Incremental Saving Intervention score. Age was also correlated significantly with several other control variables of interest. The control variable Marlow-Crowne Social Desirability Short Scale score was chosen to determine if participant's desire for perception of social desirability impacted study findings. Additionally, Marlow-Crowne Social Desirability Short Scale score was also significantly correlated with two other control variables: Number of Adults in the Household and Use of a Computer or Smartphone to Complete the Study.

The variable Stages of Saving Change, originally intended as a DV, was repurposed as an IV variable, after Study Group P, Q, R, S averages were calculated and bivariate statistics were examined. The fact that there was over a fifth of a percent of movement (.23) for the control group, P average suggested the exposure to the Stages of Saving Change Scale may have served, in and of itself, to positively impact financial saving changes. Due to this, any resulting financial saving changes could have been reflected in the DV Intent to Save. In addition to these findings, Stages of Saving Change also correlated significantly with Intent to Save in the bivariate correlations. For these reasons, DV Stages of Saving Change was repurposed as an IV to test DV Intent to Save.

The IV Incremental Saving Intervention was added to the model after examining the bivariate correlations and discovering the significant correlation between Incremental Saving Intervention and DV Intent to Save, as well as examining the first regression results. It was determined adding Incremental Saving Intervention may improve the model and may contribute to explaining changes in participants Intent to Save. In total, there were two independent variables used (Stages of Saving Change and Incremental Saving Intervention) and three control variables used (Parents SES, Age, and Marlow Crowne Score) in the regression on intent to save.

The data were examined for hierarchical regression assumptions and all assumptions were met. The assumption of independence of observations was met, Durbin-Watson = 2.11. The assumption of a linear relationship between the dependent variable and each of the independent variables was met for the model in the scatterplot matrix. The assumption of an absence of multicollinearity was met, as there were low correlations (well below .8) between the independent variables in the model. See Table 27. Additionally, the collinearity statistics VIF ranged from a 1.00 to 1.07, each well below the cutoff score of 10. The tolerance ranged from .93 to .99, well above the cutoff score of .2. Additionally, the assumption of independence of errors was met. The assumption of homoscedasticity was met. The assumption of normally distributed errors was met. Significant outliers, high leverage points or highly influential points had been previously identified and addressed, with the Cook's Distance maximum residual statistic at .17, well below the cutoff score of 1. Additionally, the minimum and maximum values for the standardized residual were -2.72 and 2.20, below the cutoff scores of -3 and 3.

A three stage hierarchical multiple regression was conducted with Intent to Save as the DV. Parents SES, Age, and Marlow Crowne Social Desirability Score were entered at stage one of the regression. Stages of Saving Change score was added at stage two. Incremental Saving Intervention score was added at stage three. The variables were entered in this order as to first control for variables associated with saving behavior, secondly to determine if the Stages of Saving Change impacted participants' Intent to Save in the role of an IV, and lastly, to learn if the Incremental Saving Intervention continued to impact participants' Intent to Save. See Table 29 for the inter-correlations between the regression variables.

The hierarchical regression model at stage one was not significant $F (3, 56) = 1.25$, $p=.30$ and did not receive any contribution from control variables Parents SES, Age, and Marlow Crowne Score. The introduction of the variable Stages of Saving Change at stage two resulted in a significant model, $F (1, 55) = 7.39$, $p<.05$, and accounted significantly for 11.1% of the variation in Intent to Save, $\beta = .34$, $t = 2.72$, $p < .05$. The further introduction of Incremental Saving Intervention at stage three also resulted in a significant model, $F (1, 54) = 4.40$, $p<.05$, and accounted significantly for an additional 6.2% of the variation in Intent to Save, $\beta = -.26$, $t = -2.10$, $p < .05$. In the stage three model, the variables Stages of Saving Change and Incremental Saving Intervention accounted for 23.6% of the variance in the model. In model three, the beta coefficient for Stages of Saving Change, $\beta = .32$, $t = 2.63$, $p < .05$ suggested for each unit increase in Stages of Saving Change, there was a .32 increase in Intent to Save. See Table 28.

Alternate Regression.

As control variable Participants Parents SES when Participants were Children had been used in the role of a continuous variable, but was arguably a categorical variable, an additional confirmatory analysis on the final model was conducted using Parent SES at a categorical variable. A multiple linear regression was calculated to predict Intent to Save based on Stages of Saving Change and Incremental Saving intervention, while controlling for Parent SES (as a categorical variable), Age, and Marlow-Crowne Social Desirability Short Scale.

The data were examined for regression assumptions. The assumption was met of an interval measurement for the DV. The assumption was met of the IV's being either continuous or categorical. There were three control variables: Parents SES, categorical, Age and Marlow-Crowne Social Desirability Short Scale, both continuous variables. There were five categories for Parent SES (1=upper class, 2=upper middle class, 3=middle class, 4=lower middle class, 5=lower class). There had been no answer selections for upper class. Due to this, the categories were dummied coded with upper class and upper middle class together serving as the comparison category for middle, lower middle, and lower class categories. The assumption of independence of observations was met, Durbin-Watson =2.04

The assumption of a linear relationship between the dependent variable and each of the independent variables was met for the model in the scatterplot matrix. The assumption of an absence of multicollinearity was met, as there were low correlations (well below .8) between the independent variables in the model. Additionally, the collinearity statistics VIF ranged from a 1.03 to 2.15, each well below the cutoff score of 10. The tolerance ranged from .47 to .97, well above the cutoff score of .2. Additionally, the assumption of independence of errors was met. The assumption of homoscedasticity was met. The assumption of normally distributed errors was met. Significant outliers, high leverage point or highly influential points were identified previously and addressed, with the Cook's Distance maximum residual statistic at .24, well below the cutoff score of 1. Additionally, the minimum and maximum values for the standardized residual were -3.03 and 2.00, very close to the cutoff scores of -3 and 3.

Stages of Saving Change and Incremental Saving Intervention significantly contributed to the model, $F(7,52) = 2.63$, $p<.05$ and accounted for 26.1% of the variation in Intent to Save. The beta coefficient for Stages of Saving Change , $\beta = .30$, $t = 2.50$, $p < .05$ suggested for each unit increase in Stages of Saving Change, there was a .30 increase in Intent to Save. The beta coefficient for Incremental Saving Intervention was $\beta = -.26$, $t = -2.05$, $p < .05$. Findings using Parents SES as a categorical variable supported earlier findings using Parents SES as a continuous variable. See Table 30.

Paired Samples T-Tests.

The following is an account of the statistical significance for H9 and H10. Paired samples t-tests were employed to test for significance between Groups P, Q, R, S post-test and pre-test scores. The assumption was met of each of the DV's measured on an interval scale. The assumption of normal distribution was sufficiently met. The differences between the Stages of Saving Change pre-test and post test scores were mostly normally distributed, passing the Shapiro-Wilk test of normality $p>.05$, and skew (.12) and kurtosis (1.69) were below +/-2 . The differences between Intent to Save pre-test and post-test scores were not as normally distributed, failing the Shapiro-Wilk test of normality, $p<.05$. However, skew (.14) and kurtosis (.77) were below +/-2. As the t-test is somewhat robust to violations of normality, it was determined to still utilize both DVs. It was also determined to follow up any statistically significant t-test findings with a Wilcoxon Signed-Ranks Test, designed for non-normally distributed data.

A paired-samples t-test was conducted to compare Stages of Saving Change in post-test and pre-test conditions. There were no significant differences in the scores for any of the groups. See Table 31. A paired samples t-test was conducted to compare Intent to Save in post-test and pre-test conditions. There were no significant differences in the scores for Groups P, Q, or R. However, there was a significant difference in the scores for Group S post-test (M=20.99, SD=3.17) and pre-test (M=20.26, SD=3.41) conditions, $t(19)=2.20$, $p<.05$, $r=.48$. See Table 31. These results suggest introduction to a combination of incremental saving orientation, future financial-self orientation, and financial literacy training increased intent to save for participants. A follow up Wilcoxon Signed-Ranks test also indicated that Group S post-test scores (mean rank=6.28) were significantly different than the pre-test scores (mean rank=4.75), $Z=-2.11$, $p<.05$. These results support the paired samples t-test findings.

Interventions Testing.

Paired samples t-tests were also employed to test for significance between Incremental Saving Intervention, Future Financial Self Intervention, and Financial Literacy Training post-test and pre-test scores. Alternate nonparametric tests were conducted as well.

The assumption was met of each of the IVs measurement on an interval scale. The assumption was somewhat met of normal distribution for Incremental Saving Intervention. The differences between the Incremental Saving Intervention pre-test and post test scores failed the Shapiro-Wilk test of normality $p<.05$. However, skew (.31) and kurtosis (1.81) were below +/-2 . The differences between the Future Financial Self Intervention pre-test and post test scores failed the Shapiro-Wilk test of normality $p<.05$. However, skew (1.10), though not kurtosis (3.61) was below +/-2. The differences between the Financial Literacy Training pre-test and post test scores failed the Shapiro-Wilk test of normality $p<.05$. However, skew (.30), though not kurtosis (2.60) was below +/-2 . For these reasons, a follow-up Wilcoxon Signed-Ranks test was conducted for the Incremental Saving Intervention, Future Financial Self Intervention, and Financial Literacy Training.

Incremental Saving Intervention had a significant difference in the scores between post test (M=9.43, SD=4.99) and pre-test (M=11.23, SD=4.66) conditions, $t(59)=-3.175$, $p<.05$. A follow-up Wilcoxon Signed-Ranks test also indicated that Incremental Saving Intervention post-test scores (mean rank=20.42) were significantly different than the pre-test scores (mean rank=25.23), Z=-3.38, $p<.05$. Future Financial Self Intervention approached significance in the difference between post-test (M=21.77, SD=4.28) and pre-test (M=21.20, SD=4.21) conditions, $t(39)=1.29$, p=.10. An alternate Wilcoxon Signed-Ranks test was also conducted and there was no statistically significant difference between the conditions, p=.14. Financial Literacy Training did not have a significant difference between the post-test (M=18.10, SD=2.08) and pre-test (M=18.33, SD=1.83) conditions, p=.20. An alternate Wilcoxon Signed-Ranks test was also conducted and there was no statistically significant difference between the conditions, p=.18.

Chapter 8: Discussion, Limitations, and Implications

Discussion of the results is elaborated. Limitations are addressed. Implications including practical and theoretical are highlighted, as well as future research.

Discussion

Effective financial management is desirable from a macro, societal perspective, as well as from a micro, individual perspective. As people are more financially stable, the middle class expands and allows for economic expansion. On an individual level, financial insecurity causes stress and lowers productivity. Financial saving practices are one manner in which individuals can plan and prepare for the future. As individuals are able to set aside a sum of money for emergencies and for asset accrual, financial stability increases.

This study suggests possible reasons for people's ineffective management and investigates the effectiveness of interventions that might improve individuals' financial management. Specifically, this study focuses on individuals' saving behavior because saving is at the core of effective financial management. Arguably, the process of saving toward specific financial goals can facilitate the acquiring of financial assets. Financial assets, in turn, can provide greater options in financial management.

The premise for this study is that individuals' effectiveness at managing their finances depends on their ability as well as their motivation to do so. It is one thing to be given information regarding how to accomplish something. It is another thing to acquire the belief that one is capable to accomplish something. Arguably, much of financial management training in the past has been limited, focusing only on the how to and generally as a one-time intervention. Financial literacy programs are designed to teach individuals the knowledge and skills required to manage finances effectively. Plenty of such programs exist but have been shown to be ineffective. Why are they ineffective? In part, because in addition to having the know-how, individuals need to believe themselves capable of saving money.

Saving money may be compared to eating vegetables. Individuals who do not consume vegetables in their diet may logically recognize a candy bar is not as good for a body as a bowl of broccoli. Individuals may also logically recognize if one eats more vegetables and less candy bars one may enjoy greater physical health. However, logically recognizing the lack of nutrients in food choices will not generally produce food choice changes. The same may be said of financial choices. Individuals who do not save money may logically recognize that what money is spent on in the moment is not bringing the same level of financial satisfaction that saving toward a specific goal would bring. However, logically recognizing the lack of financial saving practices in one's life will not generally bring about saving changes.

To further complicate the situation, those who eat exclusively candy bars may see themselves as polar opposite of "health nuts". Likewise, those who have not yet experienced success at saving money for specific goals may see themselves as "no good at saving money" and vastly different from those who have begun acquiring assets. The U.S. experiences great diversity in financial saving practices (Pew Charitable Trusts, 2015) and there is an ever-widening gap between those who have acquired substantial means and those with very limited financial means (Walsh, 2014). If positive financial changes are to be made, individuals must see a clear path to make the change, which includes a belief that positive financial changes are possible for them specifically.

The TTM Stages of Change provides a useful framework for the investigation of behavioral change. It posits a number of components that must be met for individuals to actually change their behavior. Addressing the motivation component in behavior change, this study introduces incremental theory and future-self theory. Specifically, it was proposed that individuals who

a) believe they can actually change their behavior and learn how to save money are more likely to do so
b) can see themselves in the future as someone who saves money they will be more likely to do so.

Interventions in this study were designed based on these two theories. It was the purpose of this study to explore the effect these interventions may have on people's motivation to change their saving behavior. The study aimed to answer the following questions: Does an incremental orientation positively impact financial saving intent? Does a combination of an incremental orientation and future financial-self introduction positively impact financial saving intent? Does a larger combination of an incremental saving introduction and a future financial-self introduction and basic financial literacy training positively impact financial saving intent?

The results from this study are mixed relative to the research questions and hypotheses. Regarding H1-H5: None of the interventions seemed to significantly influence participants' movement towards a change in saving behavior. However, the means for the differences in the pre and post Stages of Saving Change score were almost twice as large for the group, which received all three interventions, than for the control group. Although not statistically significant, this result provides some limited support to the usefulness of combining financial literacy with motivation-focused measures, such as incremental theory and future self to help individuals move through the stages of saving change.

Noteworthy is that Stages of Saving Change was not significantly related to any of the variables in the model (with the exception of Intent to Save), possibly implying that there might be an issue with the measure itself. Perhaps, the pre/post changes in movement through the Stages of Saving Change are difficult to detect. The TTM Stages of Change has been primarily used for clinical and health counseling purposes on an individual basis rather than in an aggregate. The changes individuals experience, as measured using TTM Stages of Change may be more specific to the individual's progress and not of sufficient strength for use in comparing across groups and of smaller effect than anticipated within groups.

As to be expected, there was a strong positive significant correlation between Intent to Save and Stages of Saving Change, implying that individuals who appear to have moved in the Stages of Saving Change are also more intent on saving. The readiness to change assessed by the Stages of Saving Change is reflected in an individual's intent to actually change their behavior. Regarding H6-H10: Both bivariate and multivariate results support the impact of incremental orientation on saving intent. As individuals reject the idea that they cannot learn and change their saving behavior they are more likely to indicate a higher intention to save.

Additionally, there was statistical significance between the pre-test and post-test scores within the group, which received exposure to all three of the interventions. This suggests a combination of incremental saving orientation, future financial-self orientation, and financial literacy training impacts intent to save. These findings together suggest an incremental saving orientation has a particularly strong influence on intent to save. When incremental saving orientation is combined with future financial-self orientation as well as financial literacy training, it is more effective than without the combination on increasing movement in saving intentions. This may be due to the disruption in temporal discounting which can occur when one's future is considered in addition to one's present (Ersner-Hershfield, Wimmer, & Knutson, 2009). The disruption can allow the opportunity to consider what one wants in the future as well as what one wants in the moment. The combination of considering what one wants in one's future with a realization that one is capable of making positive changes (Dweck, 1999) may lead to an increased application of financial literacy concepts which are not implemented through information acquirement alone.

Interestingly, participants of parents with lower SES have a positive correlation with intent to save. Contrastingly, participants of parents with higher SES have a positive relationship with perception of how well their parents saved money. Conflicting correlations represent the many confounds present in saving behaviors. The bivariate results additionally show that parents SES is related to race, number of children, and marital status. Clearly the SES that individuals experience as children correlates with numerous aspects of one's life. As participants' parents SES as children was controlled for (and not significant) when testing the impact incremental saving orientation had on intent to save, it may suggest an incremental saving intervention has the possibility to increase saving intentions for those with varying SES backgrounds. The importance of observing parents financial management, particularly saving behavior (or lack thereof) cannot be overestimated as research suggests sixty percent of Americans in the top and bottom two-fifths of income in childhood maintain that placement in adulthood (Olen, 2013). However, if it was not possible to observe parents who practiced saving, perhaps the introduction to an incremental orientation holds some promise. And perhaps as incremental saving orientation is introduced to individuals who experienced lower SES as children, there may be all the greater potential for positive movement on financial saving intentions.

Age was positively related to incremental orientation. This may have suggested that younger participants appeared to be more likely to respond to this intervention than older participants. This may be due to the fact that the interventions were shaped to appeal to a younger audience, the target set for mid twenties, with the idea that if this audience were captured, an older audience would be as well. As age was controlled for (and not significant) when testing incremental saving intervention on intent to save, it can be argued that the intervention had similar impacts for participants of varying ages.

The significance of an incremental orientation points to the need to combine an incremental orientation with financial literacy programs already in existence. It could be argued that an incremental orientation is the prerequisite for financial literacy training to work. In reference to this study's research questions, answers vary. Overall, it appears that there is direct benefit from exposing individuals to an incremental orientation about saving. Additionally, incremental saving orientation plus financial literacy training is better than just financial literacy does have statistically significant support and is related to research showing that financial knowledge is utilized more when accompanied by perceived control of personal finances (Perry & Morris, 2005).

Participants who received the financial incremental intervention were asked "If you start looking at your own financial saving challenges as an opportunity to grow, what will be different in your life?" One participant responded, "The things that will be different in my life would be that I would be able to save for things that I want. People become more confident as they save and begin to notice that they have money." Another participant responded, "If I start looking at my challenges as an opportunity to grow I will be less stressed overall." Another participant responded, "I will grow as a person, I will feel accomplished in overcoming challenges, and be better off from a financial perspective." Another participant responded, "Will focus more at looking at change of lifestyle in certain areas to allow me to save more. Less of the smaller luxuries in order to have more for the bigger ones."

As stated earlier, it cannot be overemphasized that investing in getting people to engage in more effective financial management practices is of utmost importance in helping individuals increase financial wellness. For those who benefited from great parental examples regarding the saving of financial resources for specified goals, this is transferred into following generations. The same transference occurs for those whose parental examples were void regarding financial saving practices. Knowledge alone cannot positively alter saving practices. However, regular, ongoing exposure to incremental saving orientation (and in combination with future financial orientation) holds some promise in aiding individuals to increase intentions to save money, potentially leading to a higher measure of financial wellness.

The finding that the incremental saving intervention was successful at yielding statistically significant change between the pre-test and post-test scores was encouraging on a sample size of sixty. It was also encouraging that the future financial-self intervention approached significance in change between the pre-test and post-test scores on a sample size of forty. It was disappointing that financial literacy training was not significant in change between the pre-test and post-test scores on a sample size of twenty. It was also disappointing that there was a decrease in the mean post-test scores as compared to the mean pre-test scores. However, as incremental saving intervention was successful, it may suggest the remaining interventions will benefit from a larger sample size on which to test. It may also suggest that the incremental saving intervention resonated more fully with participants and both individually, as well as in conjunction with the other interventions, is worthy of expansion.

Limitations

The DV Stages of Saving Change did not correlate significantly with any variable other than other DV Intent to Save. Although related, it cannot be argued that both DV's measured the same thing, as the correlation was not overly strong, at .25. It may be argued that as a clinical tool designed to measure individual change, it served as a facilitator of positive saving change with Intent to Save. Had the impact of Stages of Saving Change scale been considered in the design process, it could have been repurposed originally as an IV, or considered as a potential mediator in the study. The twenty-four questions participants were exposed to in pre-test and post-test form may have caused introspection regarding personal financial saving intentions. Additionally, the transtheoretical model holds that individuals will pass through Stages of Change in both forward and backward directions as part of the change regarding a target behavior. The intervention exposure duration may have been of sufficient duration to elicit some positive change, as reflected for group mean scores, but not of sufficient duration to elicit change reflected in statistical significance.

The TTM Stages of Change was developed to assess individual placement regarding target behavior, so that an individualized intervention could be administered. In the present study, participants were randomly assigned to receive or not receive interventions, none of which were tailored specifically to individual responses on the Stages of Saving Change scale. This lack of tailoring the intervention to each participant's stage could have further impacted Stages of Saving Change results.

Also of note were the adapted Stages of Saving Change Scale principal component analyses. Thirteen items loaded on the component action / maintenance and eleven items loaded on the component pre-contemplation / contemplation for the pre-test responses. Twelve items loaded on the component action / maintenance and twelve items loaded on the component pre-contemplation / contemplation for the post-test items. Additional development of the scale in the future may help facilitate increased scale effectiveness.

Another limitation of the study was that both dependent variables pre-tests and post-tests used a self-reported measurement. Additionally, each of the three interventions pre-tests and post-tests utilized a self-reported measurement. Each of the control variables also used a self-reported measurement. This offers possibility for bias into the measure. The study would have been stronger with an introduction of an objective measure into the subjective measurement utilized in the study. This additional approach may be considered for future studies.

The intervention exposure may not have been of sufficient duration for statistical significance to be achieved between groups. Additional exposure time and or exposure spread out over a longer period of time may have elicited stronger findings. There may have also been a washing out effect of incremental saving intervention onto future-self intervention and financial literacy training. Incremental saving intervention was always the first intervention in the series and this may have influenced its impact. Also of interest, may have been additional exposure contact. The online video format used in the study may have been improved with the addition of a live connection via text, etc. to a financial counselor to discuss personal financial saving goals.

Sample size may have been another limitation. The eighty participants, twenty participants per group, may not have been large enough to highlight all stages of saving change and saving intention changes for the analyses. The sample size was calculated for regression analyses using three predictor variables of interest and was not ideal for testing all the potential control variables. As such, it was not possible to run a regression including all of the IV's and all control variables. Additionally, it was of insufficient size for the ANOVA analyses conducted, which may have led to the lack of between group findings. With the group sizes of twenty participants each, the Incremental Saving Intervention was tested on only sixty participants, the Future Financial Self Intervention was tested on only forty participants, and the Financial Literacy Training was tested on only twenty participants. This makes the incremental saving orientation impact on saving intent all the more of interest. As for the other interventions, it was assumed a medium effect would be found, however, it is possible the effect was smaller and thus needed additional sample size to be found.

Intervention effect was found for all three interventions on intent to save within Group S between pre-test and post-test scores, though not found in between group scores. This may further suggest there was not sufficient sample size, thus limiting the power needed to fully capture all findings. Additionally, there was a statistically significant difference between the pre-test and post-test scores for the incremental saving intervention (N=60), an approaching significance on future financial self intervention (N=40), and no significance on financial literacy training (N=20), which further suggests sample size may have influenced non-significant findings.

If there had been an additional incentive added into the design, incentivizing both the employer and employee, it may have benefited the study. An incentive to the employer for use of the employees' work time to complete the study, as well as an incentive to the employee directly to participate in the study may have increased participation. After the main study was underway, this option was discussed for its potential benefits. However, the incentive design could not be altered at that stage. Had it been incorporated into the original study design, there may have been additional participants yielding a larger sample size and a lower attrition rate.

An additional limitation of this study came from maintaining an even forty-five minutes of intervention time for each of the four groups and equal dosages of interventions. The dosages were fifteen-minute increments each for incremental savings, future financial self, and basic financial literacy training. As one of the groups received only fifteen minutes of an incremental saving introduction, the remaining thirty minutes was filled with the same neutral financial control filler as was used for the control group. As another of the groups received fifteen minutes of an incremental saving introduction and fifteen minutes of a future financial self introduction, the remaining fifteen minutes was filled with the same neutral financial control filler as was used for the control group. The final group received fifteen minutes of an incremental saving introduction, fifteen minutes of a future financial-self introduction and fifteen minutes of basic financial literacy training, so no additional filler was needed. The exploratory nature of this study allowed for the necessary building of interventions and filling remaining time periods with control filler. It is possible the control material influenced participants in unforeseen ways. For this reason it was planned, though not realized due to the small numbers, that in the pilot study, any impact of exposure to the control filler on the DV could be examined.

There was also a limitation regarding missing data imputation. The expectation maximization imputations were conducted on all variables with missing data, even though two of the variables, Intent to Save and Marlow Crowne Social Desirability Scale score, when tested individually, failed the MCAR test. Choosing to still impute the missing data using the expectation maximization method could have affected the variable. However, as there were only a few data points, which were imputed for these variables, it should not be of great concern. Additionally, the debt variable had fifteen percent of its data missing, which was imputed and may have compromised the variable.

Yet another limitation was the risk of a family wise error. There were multiple statistical analyses carried out to test the hypotheses. There were several regressions, two ANOVA's and eight paired sample t-tests conducted on the DV's and three paired sample t-tests conducted on the IV's to fully analyze the data. Having multiple tests increased the threat of family wise or experimentwise error rate, thus the possibility of a Type 1 error.

An additional limitation to the study was the field study design, which reduces the level of control over possible factors that might influence the DV's. Future research may test the hypotheses proposed in this study in a controlled laboratory setting. Individual aspects of the employees' lives, workload, and environment undoubtedly impacted participation in the study. Additionally, while each of the qualified employees from participating companies were invited to participate in the study, study participation was self-selected, which meant those employees who elected to participate in the study may have been different from those employees who elected not to participate. Twenty-five percent of employees invited to participate in the study accepted the invitation. Within those employees who chose to participate, attrition was a threat, and resulted in 17.65% loss in the main study and 42.86% in the pilot study. As referenced earlier, while employers were reimbursed $20 for employees' time to participate in the study, an added incentive of an additional $20 for each employee to participate may have increased participation and decreased attrition. It is assumed some employees took time to internalize the material and answer the questions, while other employees rushed through the material and the answering of questions. However, personal financial saving decisions are made in the context of the messiness of everyday living (Olen, 2013), so conducting the study in a field setting was most appropriate for this construct.

Another limitation of the study was the variation in participants' individualized choice of computer versus smart phone access to the study material. The computer screen generally provided a larger visual of the material, while the smart phone screen provided a smaller visual of the material. Additionally, the smart phone may be considered more easily portable rendering participants to move around more during study participation. These differences in size and portability may have impacted internalization of the material and thereby study results.

Yet another limitation of the study was the need to debrief each participant following study participation in a way that did not influence any responses by co-workers who had not yet participated in the study but planned to do so. For this reason, the debriefing was done all at once company by company after the study was completed by each of the participating company employees.

Many of these limitations presented due to the field setting in which the study took place. However, as previously mentioned, financial saving decisions are made within the context of daily living and are fraught with many life influences and challenges. For this reason, accepting the limitations was worth the opportunity to engage in field study work with employees from local businesses.

Implications

Notwithstanding the limitations summarized above, the study results have important theoretical and practical implications, discussed in the following section. In addition, directions for future research building upon this study are presented.

Theoretical Implications and Future Research

Research has suggested there is far greater positive impact for employees who receive regular, ongoing exposure to financial wellness concepts. The finding of how an incremental saving orientation can help in building saving intentions can be used in conjunction with previous research. Future research may add an incremental saving intervention into a longer-term study of employee financial wellness effectiveness. The addition of incremental theory into existing financial wellness programs holds promise to expand financial wellness research.

The finding that a combination of incremental saving intervention, future financial self intervention, and financial literacy training impacted intent to save post-test scores suggests further research is warranted. Past research has focused on the single utilization of financial literacy training. Further research, which includes incremental theory and future selves theory offers the potential for additional insights into how saving intentions may be increased. The triad of interventions has shown improvement in a small-scale study. A larger scale study may show these financial saving constructs of interest can be used to elicit increased saving change. As these interventions are improved and expanded, even greater saving change may be possible.

It has been shown that considering one's future financial needs is tied to greater financial asset acquirement (Ersner-Hershfield, Garton et al., 2009; Hershfield, Goldstein et al. 2011; Ersner-Hershfield, Wimmer et al., 2009). Incremental theory suggests improvement and growth is possible when one is willing to put forth the necessary effort (Bandura & Dweck, 1985; Dweck & Leggett, 1988). Based on this study's results, this theory is applicable to the study of personal financial saving practices.

Prior research implies that (Drexler, Fischer, & Schoar, 2014; Bernheim & Garrett, 2003; Lusardi, 2005) financial literacy training can offer information addressing choices and consequences of financial management and that, however, increasing financial knowledge is not sufficient to help individuals improve financial behavior (Austin & Arnott-Hill, 2014). In addition, Fernandes et al. (2014) suggest that aspects of financial coaching and nudges toward positive financial behaviors (Pathak, Homes, & Zimmerman, 2011) would produce more stable results in behavior change. These findings are corroborated by the results of this study. Hence, future studies that might integrate aspects of the incremental theory and future selves theory into existing financial literacy education may provide valuable insights.

The additional finding of how TTM Stages of Saving Change scale, generally used as a measure, actually resulted in an increase in saving intent also deserves further exploration. It may be that inclusion of Stages of Saving Change scale will prove to be a vital element of successful employee financial wellness programs in not only assessing, but also in positively impacting employees intent to save financial resources. Because of this, future research should include continued development of the scale. It is also of importance to examine which interventions work best at the different stages of saving change. As the interventions in the current study could not be tailored for each of the stages separately, they were developed to touch on each of the stages, while not settling on any specific stage. However, it was estimated in the current study, the interventions were targeted more to those participants in the contemplation stage than the other stages. It would be of great value to continue development of interventions for the contemplation stage. However, it is also necessary to develop interventions to further include targeting of pre-contemplation, action, and maintenance stages as well.

In summary, future research will build upon the following findings. First of how an incremental saving orientation has been shown to positively influence intentions to save. This in conjunction with future financial self orientation and basic financial literacy have significantly increased post-test scores over pre-test scores of intentions to save.

Lastly, a new use and possible expansion of the Stages of Change Scale purpose on intentions to save deserves attention. Research can build upon these findings by increasing the scope of future studies, particularly in duration and sample size.

Practical Implications.

Increased duration and study span should be considered for future research. The current study only impacted for one-hour duration, yet employees shared a desire to improve in financial wellness. One participant shared, "I would like to practice [saving] by putting a certain amount away every week." Additionally, employee participant response to company administration was positive and insightful. Employees commented how the study brought the importance of financial saving decisions front and center in their lives and caused them to think about saving money differently than they had in the past. If future studies were to expand the time frame to several weeks or months and build in connections with financial interventions for employees on a daily, weekly, or monthly basis, even greater progress in employee financial wellness may be achieved. The regular connections with intervention material may serve as ongoing reminders that employees are cable of achieving personal financial goals and continue to visualize the pathway to achieve their goals.

In combination with the regular connections to intervention material, future research may also study the effects of incorporating a financial wellness texting service in which employees have access to immediate responses from financial wellness counselors. The connection to a counselor to address immediate concerns may help alleviate financial stressors in the context of everyday life. Financial wellness counselors could also serve as a liaison between employees and the personnel who handle company benefits offered to employees. The connection could serve as a reminder of such benefits and bring greater awareness to the potential opportunities to take advantage of benefit packages. Ongoing reminders may further encourage employees to obtain answers to questions regarding benefits packages including retirement saving options available. Counselors serving in a role of liaison may increase the number of employees saving for future needs. The costs for employees' access to financial wellness counselors via texting would be far less than providing employees access to counselors face to face. It would also take far less commitment and time on the part of the employee to text financial concerns or questions to a counselor. Responses could be gleaned in real time while still salient in the employees thought processes. Adding an additional element of a connector to a real person may add an important element to employees' financial wellness and is worthy of future study.

Also worthy of study is the effects of tiering financial wellness services. Offering several levels of packaging options to employers for employee wellness services may help researchers to learn what the correct amount of support is to receive the maximum return in employee financial wellness. A top tier may offer weekly intervention material for employees coupled with one weekly financial counseling text (and response). A mid level tier may offer twice monthly intervention material for employees coupled with two financial counseling texts (and responses) per month. A low level tier may offer monthly intervention material for employees coupled with one monthly financial counseling text (and response). Studying the improvement in employee financial wellness when comparing one tier against another may yield important information as to the best options for offering employee financial wellness services.

There is possibility for practical real world application as businesses may use this information to better educate employees regarding the financial saving processes. The Incremental Saving Intervention can be expanded and offered as part of an employee financial wellness portion of an employee benefits package. The future financial-self intervention may also be expanded and offered in conjunction with the incremental saving intervention. Both interventions may help incorporate greater financial wellness. Companies that have utilized a financial wellness plan for employees indicate that it has contributed to increase employee: satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%) (Workplace Benefits Report, 2015). Seventy-three percent of companies surveyed expect financial wellness plans will be standardized for all companies within the next ten years (Workplace Benefits Report, 2015).

Employed individuals and their families may have increased exposure to greater financial stability through financial wellness packages, which include application of incremental saving orientation, future financial self orientation and financial literacy training. Additionally, employers may benefit from greater employee productivity as personal financial stress is diminished. Many employers feel offering financial workplace options for employees helps their companies financially (Workplace Benefits Report, 2015). Using study findings to help employers construct regular, ongoing financial saving interventions for their employees may serve both employees as well as their employers.

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Table 1

Measurement of Stages of Change Related to Personal Financial Savings Adapted from the University of Rhode Island Change Assessment Scale (URICA) Alcohol Version

Instructions: Please indicate the extent to which you agree or disagree with each of the following statements.

1. I don’t need to save any of my money regularly.
2. I am currently saving some of my money.
3. I think I might be ready to improve how I save.
4. I’m working on saving.
5. Trying to save money is pretty much a waste of time for me.
6. I would like to better understand how to save.
7. It’s not a big priority right now to get better at saving my money.
8. I am really working hard to save money.
9. I think I will work on saving money for some of the things I want.
10. I have done a good job saving some of my money.
11. Even though I’m not always successful at saving, I am working on it.
12. I have a history of saving my money for the things I want.
13. I wish I had more ideas on how to save some of my money.
14. I may be able to improve how I save.
15. I have a habit of saving money.
16. My financial choices do not impact my savings.

17. It may be time to think about saving more of my money.

18. I am saving a portion of my money.

19. It is worthless to think about saving money.

20. I have completed several months of regular saving.

21. I have been saving my money for a while now.

22. There is no reason to worry about saving money.

23. I am actively working on saving some of my money.

24. For several weeks I have been saving some of my money.

Note. Response options were presented on a 1-5 scale: 1=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree.

Note. URICA Readiness Scoring is C+A+M-PC=Readiness. Contemplation + Action + Maintenance – Precontemplation = Readiness. The Readiness Score ranges from -2 to 14. The Precontemplation questions are: 1, 5, 7, 16, 19, and 22. Each of the questions are added up and divided by six for a mean score to use in the formula. The Contemplation questions are: 3, 6, 9, 13, 14, and 17. Each of the questions are added up and divided by six for a mean score to use in the formula. The Action questions are: 2, 4, 8, 11, 18, and 23. Each of the questions are added up and divided by six for a mean score to use in the formula. The Maintenance questions are: 10, 12, 15, 20, 21, and 24. Each of the questions are added up and divided by six for a mean score to use in the formula. To obtain the Readiness to Change score, first sum items from each subscale and divide by six to get the mean for each subscale. Then sum the means from the Contemplation, Action, and Maintenance subscales and subtract the Precontemplation mean. Compare the Readiness for change score to the following group means. Choose the stage whose group average is closest to the computed Readiness Score:

Precontemplation = 8 or lower

Contemplation = 8-11

Preparation or Action = 11-14

Note. Questions were adapted from the University of Rhode Island Change Assessment Scale (URICA): Alcohol Version. Retrieved on July 25th, 2016 from: http://habitslab.umbc.edu/urica/ as well as from http://habitslab.umbc.edu/files/2014/07/URICA24itemalc.pdf

The Readiness Score was adapted from The Habits Lab at UMBC. *The University of Maryland*. Retrieved on August 19th, 2016 from: http://habitslab.umbc.edu/urica-readiness-score/

Table 2

University of Rhode Island Change Assessment Scale (URICA): Alcohol Version

Each statement below describes how a person might feel when starting therapy or approaching problems in their lives. Please indicate the extent to which you tend to agree or disagree with each statement. In each case, make your choice in terms of how you feel right now, not what you have felt in the past or would like to feel. For all statements that refer to your “problem”, answer in terms of problems related to why you are in therapy. The words “here” and “this place” refer to your treatment center.

1. I’m not the problem one. It doesn’t make much sense for me to consider changing.
2. I am finally doing some work on my problem.
3. I ’ve been thinking that I might want to change something about myself.
4. At times my problem is difficult, but I’m working on it.
5. Trying to change is pretty much a waste of time for me because the problem doesn’t have to do with me.
6. I’m hoping that I will be able to understand myself better.
7. I guess I have faults, but there’s nothing that I really need to change.
8. I am really working hard to change.
9. I have a problem and I really think I should work on it.
10. I’m not following through with what I had already changed as well as I had hoped, and I want to prevent a relapse of the problem.
11. Even though I’m not always successful in changing, I am at least working on my problem.

12. I thought once I had resolved the problem I would be free of it, but sometimes I still find myself struggling with it.

13. I wish I had more ideas on how to solve my problem.

14. Maybe someone or something will be able to help me.

15. I may need a boost right now to help me maintain the changes I've already made.

16. I may be part of the problem, but I don't really think I am.

17. I hope that someone will have some good advice for me.

18. Anyone can talk about changing; I'm actually doing something about it.

19. All this talk about psychology is boring. Why can't people just forget about their problems?

20. I'm struggling to prevent myself from having a relapse of my problem.

21. It is frustrating, but I feel I might be having a recurrence of a problem I thought I had resolved.

22. I have worries but so does the next guy. Why spend time thinking about them?

23. I am actively working on my problem.

24. After all I had done to try and change my problem, every now and then it comes back to haunt me.

Note: Responses options were presented on a 1-5 scale, 1=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree. Taken from University of Rhode Island Change Assessment Scale (URICA): Alcohol Version (n.d.). Retrieved on August 19thth, 2016 from: http://habitslab.umbc.edu/urica/ as well as from: http://habitslab.umbc.edu/files/2014/07/URICA24itemalc.pdf

Note. URICA Readiness Scoring is C+A+M-PC=Readiness. Contemplation + Action + Maintenance – Precontemplation = Readiness. The Readiness Score ranges from 2 to 14.

Readiness Score:

Precontemplation = 8 or lower

Contemplation = 8-11

Preparation or Action = 11-14

The Readiness Score was adapted from The Habits Lab at UMBC. *The University of Maryland*. Retrieved on August 19th, 2016 from: http://habitslab.umbc.edu/urica-readiness-score/

Table 3

Intent to Save Questionnaire

Instructions: Please indicate the extent to which you agree or disagree with each statement.

1. I plan to save some of my money within the next month.
2. I plan to save some of my money within the next two months.
3. I plan to save some of my money within the next three months.
4. I plan to save some of my money within the next six months.
5. I plan to save some of my money within the next twelve months.

Note. Response options were adapted and presented on a 1-5 scale: 1=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree). The scale was adapted from Koehler, D. J., White, R. J., & John, L. K. (2011). Good intentions, optimistic self-predictions, and missed opportunities. *Social Psychological and Personality Science, 2*(1), 90-96. doi: 10.1177/194855061037522

Table 4

Intention Strength Rating

1. Right now, as I think about it, I fully intend to reach my savings goal by the end of this work term.

Note. The question was answered on a scale from 1 (absolutely no intention) to 7 (very strong intention) and estimated the probability of actually achieving their savings goals on a scale from 0% (certainly will not) to 100% (certainly will) in 10% increments. Taken from Koehler, D. J., White, R. J., & John, L. K. (2011). Good intentions, optimistic self-predictions, and missed opportunities. *Social Psychological and Personality Science, 2*(1), 90-96. doi: 10.1177/194855061037522

Table 5

Incremental Saving Scale (Adapted from the Theories of Intelligence Scale—Self Form for Adults)

Instructions: Please indicate the extent to which you agree or disagree with each of the following statements.

____ 1. You have a certain ability to save money, and you can't really do much to change it.

____ 2. Your ability to save money is something about you that you can't increase very much.

____ 3. To be honest, you can't really increase your ability to save money.

____ 4. You can learn new saving practices, but you can't really increase your basic saving ability.

Note. Response options presented on a 1-6 scale, 1=Strongly Disagree, 2=Disagree, 3=Mostly Disagree, 4=Mostly Agree, 5=Agree, 6=Strongly Agree. Scale was flipped for participants ease of use in the study from original 1=Strongly Agree, 6=Strongly Disagree. Scale adapted from original scale taken from Dweck, C. S. (1999). In M. Hewstone (Ed.), *Self-Theories: Their Role in Motivation, Personality, And Development*, pg. 178.

Table 6

Theories of Intelligence Scale—Self Form for Adults

Instructions: Using the scale below, please indicate the extent to which you agree or disagree with each of the following statements by writing the number that corresponds to your opinion in the space next to each statement.

* ____ 1. You have a certain amount of intelligence, and you can't really do much to change it.

* ____ 2. Your intelligence is something about you that you can't change very much.

____ 3. No matter who you are, you can significantly change your intelligence level.

* ____ 4. To be honest, you can't really change how intelligent you are.

____ 5. You can always substantially change how intelligent you are.

* ____ 6. You can learn new things, but you can't really change your basic intelligence.

____ 7. NO matter how much intelligence you have, you can always change it quite a bit.

____ 8. You can change even your basic intelligence level considerably.

*These items can be used alone.

Note. Response options presented on a 1-6 scale, 1=Strongly Agree, 2=Agree, 3=Mostly Agree, 4=Mostly Disagree, 5=Disagree, 6=Strongly Disagree. Scale taken from Dweck, C. S. (1999). In M. Hewstone (Ed.), *Self-Theories: Their Role in Motivation, Personality, And Development*, pg. 178.

Table 7

Financial Fitness Instrument Adapted

Instructions: Please indicate the extent to which you agree or disagree with each of the following statements.

1. Making and using a budget gives me a lot of financial power.
2. Setting aside some emergency money now can help me prepare for when financial emergencies come.
3. Good debt (ex: well priced mortgage) can help me more than bad debt (ex: credit card interest fees).
4. Saving a little money each day can build up a lot of money in the future.

Note. Response options were adapted and presented on a 1-5 scale: 1=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree. Adpated from AICPA. (n.d.). Getting financially fit. 360 degrees of financial literacy. Developed by a CPA/Accounting Professor for financial literacy training of HS students.

Table 8

Financial Fitness Instrument

True or False

1. I can easily pay off my credit cards by getting new credit cards.
2. I make so little, trying to save would be a waste of time.
3. I won't have a credit report until I start my first "real" job.
4. Payday loans are an easy way to cover financial emergencies.
5. The only thing I need to look at in a job offer is BIG BUCKS.

Note. Taken from AICPA. (n.d.). Getting financially fit. 360 degrees of financial literacy. Developed by a CPA/Accounting Professor for financial literacy training of HS students.

Table 9

Manipulation Check Questions

Incremental Saving Intervention:

As you take small steps to grow your saving practices, you can reap large rewards.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Future-Self Question:

When we feel more connected to our future self, we prepare more for our future.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Undecided

(5) Mostly Agree

(6) Agree

(7) Strongly Agree

Financial Literacy Question:

Financial preparation now can help me in the future.

(1) Strongly Disagree

(2) Disagree

(3) Undecided

(4) Agree

(5) Strongly Agree

First control video question:

Most economists agree specialization and trade can offer a comparative advantage to countries that utilize them.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Second control video question:

Macroeconomics is the study of the overall economy.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Third control video question:

The three types of unemployment: frictional, structural, and cyclical unemployment impact the economy differently.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Table 10

Pre and Post Test Questions for Intervention and Control Material

Questionnaire (before the first control video)

Please indicate the extent to which you agree or disagree with each of the following statements.

Governments use economic theory to guide public policy.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Getting the right incentives in place is critical for economic policy to work well.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Macroeconomics and microeconomics study similar things in the economy.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Most economists agree specialization and trade make the world better off.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Questionnaire (after the first control video)

Please indicate the extent to which you agree or disagree with each of the following statements.

Governments use economic theory to guide public policy.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Getting the right incentives in place is critical for economic policy to work well.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Macroeconomics and microeconomics study similar things in the economy.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Most economists agree specialization and trade make the world better off.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Most economists agree specialization and trade can offer a comparative advantage to countries that utilize them.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Questionnaire (before the second control video)

Please indicate the extent to which you agree or disagree with each of the following statements.

A recession is 6 months of decrease in real GDP (Gross Domestic Product).

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

The invisible hand refers to capitalistic choices guiding a free market economy.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Most all modern economies are neither completely free market nor planned, but mixed. There's a range of government involvement.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

The most important economic measure of an economy is GDP (Gross Domestic Product).

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Questionnaire (after the second control video)

Please indicate the extent to which you agree or disagree with each of the following statements.

A recession is 6 months of decrease in real GDP (Gross Domestic Product).

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

The invisible hand refers to capitalistic choices guiding a free market economy.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Most all modern economies are neither completely free market nor planned, but mixed.

There's a range of government involvement.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

The most important economic measure of an economy is GDP (Gross Domestic Product).

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Macroeconomics is the study of the overall economy.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Questionnaire (before the third control video)

Please indicate the extent to which you agree or disagree with each of the following statements.

The unemployment rate refers to the percentage of people who are looking for a job but cannot find one.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

When GDP (Gross Domestic Product) is rising, unemployment is generally falling.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Too much inflation or deflation is bad for an economy.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Governments have an economic interest to regulate monopolies.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Questionnaire (after the third control video)

Please indicate the extent to which you agree or disagree with each of the following statements.

The unemployment rate refers to the percentage of people who are looking for a job but cannot find one.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

When GDP (Gross Domestic Product) is rising, unemployment is generally falling.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Too much inflation or deflation is bad for an economy.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Governments have an economic interest to regulate monopolies.

(1) Strongly Agree

(2) Agree

(3) Mostly Agree

(4) Mostly Disagree

(5) Disagree

(6) Strongly Agree

The three types of unemployment: frictional, structural, and cyclical unemployment impact the economy differently.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Questionnaire (before the incremental saving intervention video)

Please indicate the extent to which you agree or disagree with each of the following statements.

You have a certain ability to save money, and you can't really do much to change it.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Your ability to save money is something about you that you can't increase very much.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

To be honest, you can't really increase your ability to save money.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

You can learn new saving practices, but you can't really increase your basic saving ability.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Questionnaire (after the incremental saving intervention video)

Please indicate the extent to which you agree or disagree with each of the following statements.

You have a certain ability to save money, and you can't really do much to change it.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

Your ability to save money is something about you that you can't increase very much.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

To be honest, you can't really increase your ability to save money.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

You can learn new saving practices, but you can't really increase your basic saving ability.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Mostly Agree

(5) Agree

(6) Strongly Agree

As you take small steps to grow your saving practices, you can reap large rewards.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

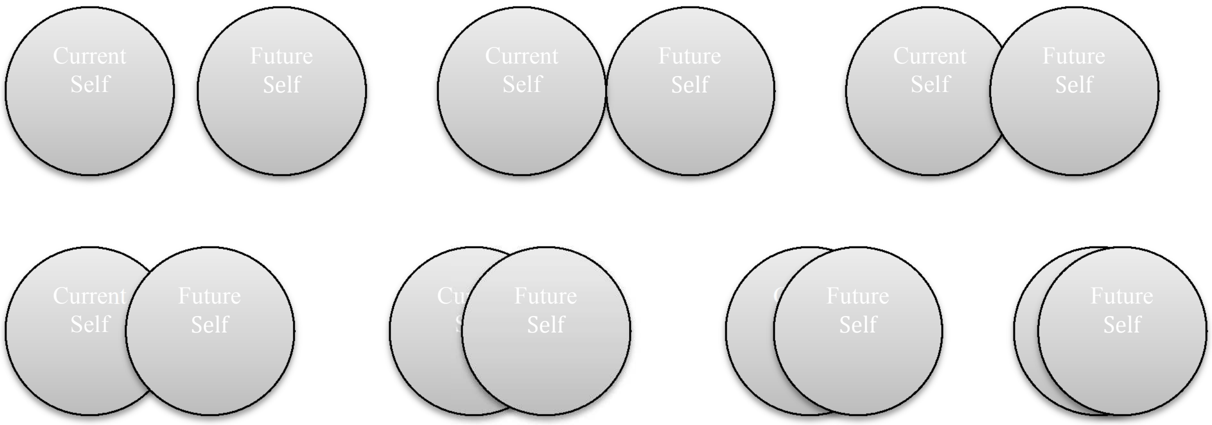
(4) Mostly Agree

(5) Agree

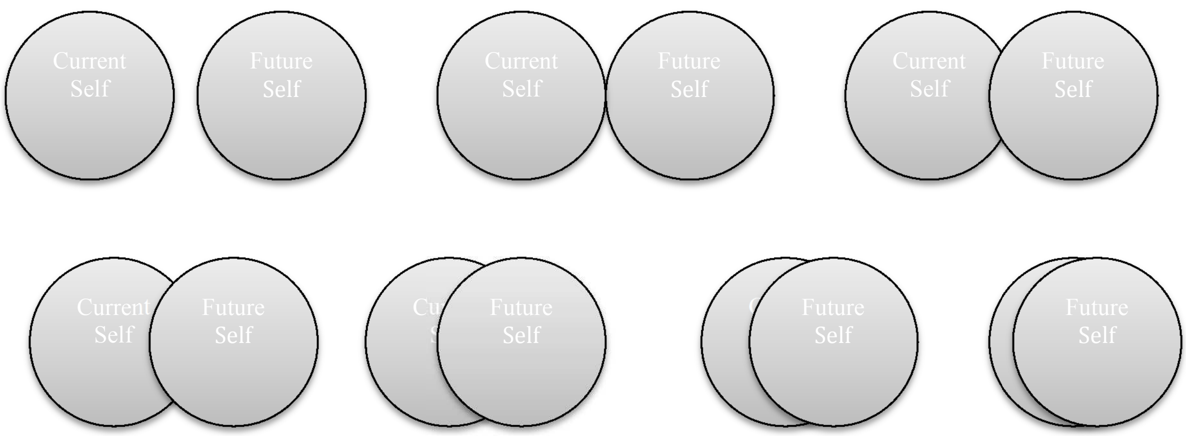
(6) Strongly Agree

Questionnaire (before the future self intervention video)

Click on the picture below that best describes how similar you feel with your future self (you in 10 years). Current self = you now. Future self = you in 10 years.



Click on the picture below that best describes how connected you feel with your future self (you in 10 years). Current self = you now. Future self = you in 10 years.



Please indicate below how much you care about your future self ten years from now.

(1) I don’t care at all

(2) I don’t really care

(3) I don’t care a whole lot

(4) Undecided

(5) I care a little

(6) I care somewhat

(7) I completely care

Please indicate below how much you like your future self ten years from now.

(1) I don’t like at all

(2) I don’t really like

(3) I don’t like a whole lot

(4) Undecided

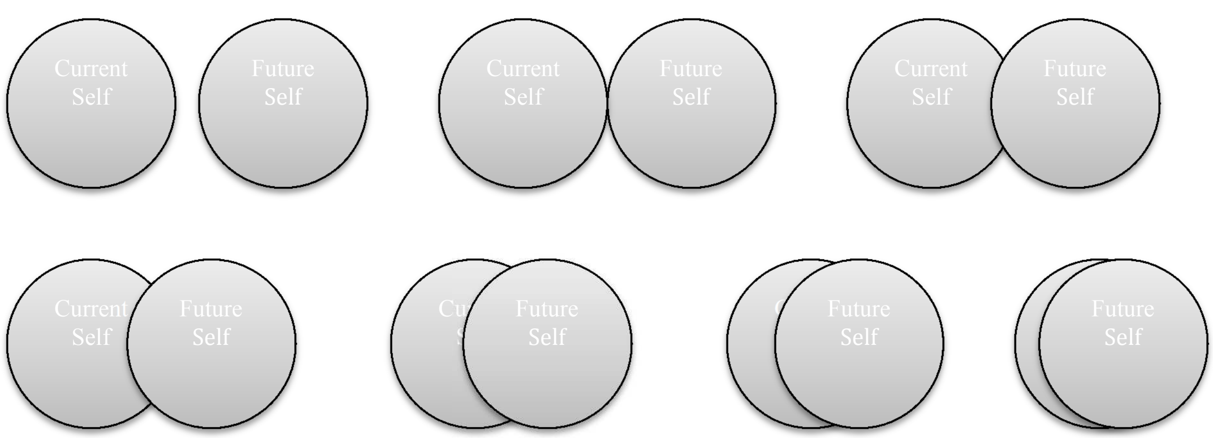
(5) I like a little

(6) I like somewhat

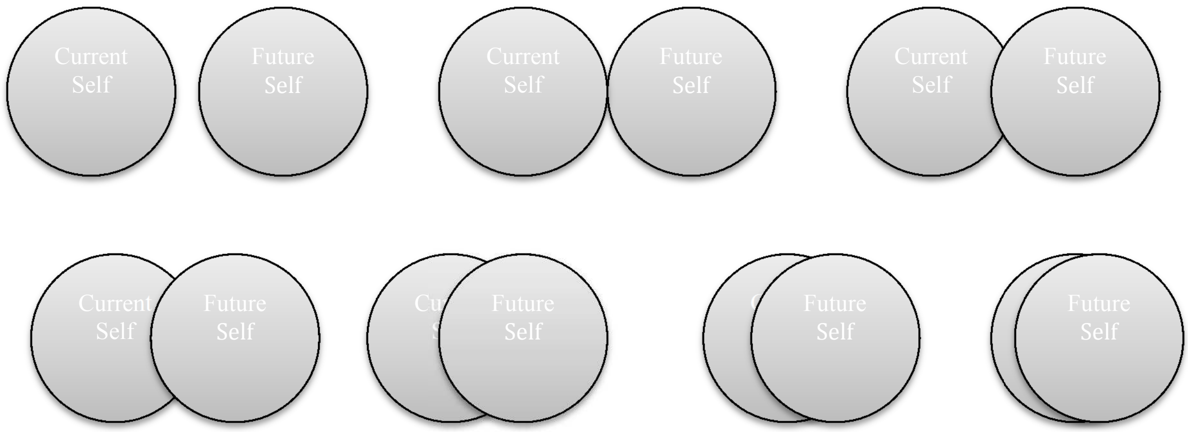
(7) I completely like

Questionnaire (after the future self intervention video)

Click on the picture below that best describes how similar you feel with your future self (you in 10 years). Current self = you now. Future self = you in 10 years.



Click on the picture below that best describes how connected you feel with your future self (you in 10 years). Current self = you now. Future self = you in 10 years.



Please indicate below how much you care about your future self ten years from now.

(1) I don’t care at all

(2) I don’t really care

(3) I don’t care a whole lot

(4) Undecided

(5) I care a little

(6) I care somewhat

(7) I completely care

Please indicate below how much you like your future self ten years from now.

(1) I don’t like at all

(2) I don’t really like

(3) I don’t like a whole lot

(4) Undecided

(5) I like a little

(6) I like somewhat

(7) I completely like

When we feel more connected to our future self, we prepare more for our future.

(1) Strongly Disagree

(2) Disagree

(3) Mostly Disagree

(4) Undecided

(5) Mostly Agree

(6) Agree

(7) Strongly Agree

Questionnaire (before the financial literacy intervention video)

Please indicate the extent to which you agree or disagree with each of the following statements.

Making and using a budget gives me a lot of financial power.

(1) Strongly Disagree

(2) Disagree

(3) Undecided

(4) Agree

(5) Strongly Agree

Setting aside some emergency money now can help me prepare for when financial emergencies come.

(1) Strongly Disagree

(2) Disagree

(3) Undecided

(4) Agree

(5) Strongly Agree

Good debt (ex: well priced mortgage) can help me more than bad debt (ex: credit card interest fees).

(1) Strongly Disagree

(2) Disagree

(3) Undecided

(4) Agree

(5) Strongly Agree

Saving a little money each day can build up a lot of money in the future.

(1) Strongly Disagree

(2) Disagree

(3) Undecided

(4) Agree

(5) Strongly Agree

Questionnaire (after the financial literacy intervention video)

Please indicate the extent to which you agree or disagree with each of the following statements.

Making and using a budget gives me a lot of financial power.

(1) Strongly Disagree

(2) Disagree

(3) Undecided

(4) Agree

(5) Strongly Agree

Setting aside some emergency money now can help me prepare for when financial emergencies come.

(1) Strongly Disagree

(2) Disagree

(3) Undecided

(4) Agree

(5) Strongly Agree

Good debt (ex: well priced mortgage) can help me more than bad debt (ex: credit card interest fees).

(1) Strongly Disagree

(2) Disagree

(3) Undecided

(4) Agree

(5) Strongly Agree

Saving a little money each day can build up a lot of money in the future.

(1) Strongly Disagree

(2) Disagree

(3) Undecided

(4) Agree

(5) Strongly Agree

Financial preparation now can help me in the future.

(1) Strongly Disagree

(2) Disagree

(3) Undecided

(4) Agree

(5) Strongly Agree

Table 11

Demographic Questions

Please indicate gender:

Male

Female

Please indicate age:

18-24

25-34

35-44

45-54

55-64

65 and over

Please indicate education level:

Did Not Complete High School

High School Graduate

Some College

College Graduate

Post Graduate Education

Please indicate household income level:

Less than $15,000

$15,000 to $24,999

$25,000 to $34,999

$35,000 to $49,999

$50,000 to $74,999

$75,000 to $99,999

$100,000 to $149,000

$150,000 or more

Please indicate race / ethnicity:

White

Black

Hispanic

Asian or Other

Note. Taken from Robb, C. A., & Woodyard, A. S. (2011). Financial knowledge and best practice behavior. *Association for Financial Counseling and Planning Education, 22*(1), p. 65.

Please indicate the approximate value of your current assets. Assets are defined as the amount of money you have in your bank accounts, the amount of money you have in investments and other belongings, as well as the portion of home equity you have (the amount you have paid off the mortgage for).

$0-$500

$501-$1,000

$1,001-$5,000

$5,001-$10,000

$10,001-$20,000

$20,001-$30,000

$30,001-$40,000

$40,001-$50,000

$50,001-$60,000

$60,001-$70,000

$70,001-$80,000

$80,001-$90,000

$90,001-$100,000

$100,001-$125,000

$125,001-$150,000

More than $150,000

Please indicate your approximate debt amount. Debt is defined as any outstanding credit card, medical, student loan, car, house, and other financial responsibilities due.

$0-$500

$501-$1,000

$1,001-$5,000

$5,001-$10,000

$10,001-$20,000

$20,001-$30,000

$30,001-$40,000

$40,001-$50,000

$50,001-$60,000

$60,001-$70,000

$70,001-$80,000

$80,001-$90,000

$90,001-$100,000

$100,001-$125,000

$125,001-$150,000

More than $150,000

Note. Taken from Ersner-Hershfield, H., Garton, M. T., Ballard, K., Samanez-Larkin, G. R., & Knutson, B. (June 2009). Don't stop thinking about tomorrow: Individual differences in future self-continuity account for saving. *Judgment and Decision Making, 4*(4), p. 284. Answers included 16 categories ranging from "0-$500" to "More than $1,500,000". Response options were adapted to upper range ending at $150,000 or more.

Please indicate marital status:

Married

Single Never Married

Divorced, Separated, or Widowed

Please indicate number of adults in household (age 18 years of older):

#

Please indicate number of children in household (age 17 years or younger):

#

Note. Taken from Grinstein-Weiss, M., Chowa, G. A. N., & Casalotti, A. M. (2010). Individual development accounts for housing policy: Analysis of individual and program characteristics. *Housing Studies, 25*(1), 62-82. doi: 10.1080/02673030903362035; Grinstein-Weiss, M., Wagner, K., & Ssewamala, F. M. (2006). Saving and asset accumulation among low-income families with children in IDAs. *Children and Youth Services Review, 28*, 193-211; Han, C. K., & Sherraden, M. (2009). Do institutions really matter for saving among low-income households? A comparative approach. *The Journal of Socio-Economics, 38*, 475-483.

Please indicate your parents' socioeconomic status when you were a child. Parent's socioeconomic status is defined as a combination of parents' income, education, and occupation.

Upper Class

Upper Middle Class

Middle Class

Lower Middle Class

Lower Class

Note. Taken from Kuppuswamy, S. R. (2016). Kuppuswamy's SES Scale for 2016. Online Tool. Retrieved June 30th, 2016 from: http://scaleupdate.weebly.com/

Please indicate your feelings about the following statement:

As I was growing up, my parents did a really good job saving money.

Strongly Disagree

Disagree

Undecided

Agree

Strongly Agree

Note. Based on findings from Gudmonson, C. G., & Danes, S. M. (2011). Family financial socialization: Theory and critical review. *Journal of Family Economic Issues, 32*, 644-667. doi: 10.1007/s10834-011-9275-y

Please indicate which device you used to participate in the study:

computer ____

smart phone ____

Table 12

Marlow-Crowne Social Desirability Short Scale (M-C2 10)

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally.

1. I never hesitate to go out of my way to help someone in trouble. (T)
2. I have never intensely disliked anyone. (T)
3. There have been times when I was quite jealous of the good fortune of others. (F)
4. I would never think of letting someone else be punished for my wrong doings. (T)
5. I sometimes feel resentful when I don't get my way. (F)
6. There have been times when I felt like rebelling against people in authority even though I knew they were right. (F)
7. I am always courteous, even to people who are disagreeable. (T)
8. When I don't know something I don't at all mind admitting it. (T)
9. I can remember "playing sick" to get out of something. (F)
10. I am sometimes irritated by people who ask favors of me. (F)

Note. Scoring Algorithm: For each answer the respondent provides that matches the response given above (i.e., T=T or F=F) assign a value of 1. For each discordant response (i.e., the respondent provides a T in place of an F or an F in place of a T) assign a value of 0. Total score can range from 10 (when all responses "match") to 0 (when no responses "match"). Taken from Strahan, R. & Gerbasi, K. C. (1972). Short, homogenous versions of the Marlowe-Crowne Social Desirability Scale. *Journal of Clinical Psychology, 28*, 191-193

Table 13

Pilot Study Retrospective DV Questionnaire

Instructions: Please indicate the **extent to which you agree or disagree** with each statement ***after*** watching the video and ***before*** watching the video.

1) I don't need to save any of my money regularly.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

2) I am currently saving some of my money.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

3) I think I might be ready to improve how I save.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

4) I'm working on saving.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

5) Trying to save money is pretty much a waste of time for me.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

6) I would like to better understand how to save.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

7) It's not a big priority right now to get better at saving my money.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

8) I am really working hard to save money.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

9) I think I will work on saving money for some of the things I want.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

10) I have done a good job saving some of my money.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

11) Even though I'm not always successful at saving, I am working on it.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

12) I have a history of saving my money for the things I want.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

13) I wish I had more ideas on how to save some of my money.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

14) I may be able to improve how I save.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

15) I have a habit of saving money.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

16) My financial choices do not impact my savings.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

17) It may be time to think about saving more of my money.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

18) I am saving a portion of my money.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

19) It is worthless to think about saving money.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

20) I have completed several months of regular saving.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

21) I have been saving my money for a while now.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

22) There is no reason to worry about saving money.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

23) I am actively working on saving some of my money.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

24) For several weeks I have been saving some of my money.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

25) I plan to save some of my money within the next month.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

26) I plan to save some of my money within the next two months.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

27) I plan to save some of my money within the next three months.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

28) I plan to save some of my money within the next six months.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

29) I plan to save some of my money within the next twelve months.

After watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Before watching the video:

1=Strongly Disagree 2=Disagree 3=Undecided 4=Agree 5=Strongly Agree

Note. Questionnaire reflects a combination of Measurement of Stages of Change Related to Personal Financial Savings adapted from the University of Rhode Island Change Assessment Scale (URICA) Alcohol Version and Intent to Save Questionnaire adapted from the Intention Strength Rating.

Table 14

Pilot Study Group P Control Material Questions

1. Governments use economic theory to guide public policy.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

2. Getting the right incentives in place is critical for economic policy to work well.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

3. Macroeconomics and microeconomics study similar things in the economy.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

4. Most economists agree specialization and trade make the world better off.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

5. A recession is 6 months of decrease in real GDP (Gross Domestic Product).

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree

(5) Disagree
(6) Strongly Disagree

6. The invisible hand refers to capitalistic choices guiding a free market economy.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

7. Most all modern economies are neither completely free market nor planned, but mixed. There's a range of government involvement.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

8. The most important economic measure of an economy is GDP (Gross Domestic Product).

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

9. The unemployment rate refers to the percentage of people who are looking for a job but cannot find one.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

10. When GDP (Gross Domestic Product) is rising, unemployment is generally falling.

(1) Strongly Agree
(2) Agree

(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

11. Too much inflation or deflation is bad for an economy.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

12. Governments have an economic interest to regulate monopolies.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

Table 15

Pilot Study Group Q Control Material and Intervention Questions

1. Governments use economic theory to guide public policy.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

2. Getting the right incentives in place is critical for economic policy to work well.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

3. Macroeconomics and microeconomics study similar things in the economy.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

4. Most economists agree specialization and trade make the world better off.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

5. A recession is 6 months of decrease in real GDP (Gross Domestic Product).

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree

(5) Disagree
(6) Strongly Disagree
6. The invisible hand refers to capitalistic choices guiding a free market economy.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

7. Most all modern economies are neither completely free market nor planned, but mixed. There's a range of government involvement.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

8. The most important economic measure of an economy is GDP (Gross Domestic Product).

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

9. You have a certain ability to save money, and you can't really do much to change it.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

10. Your ability to save money is something about you that you can't increase very much.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree

(5) Disagree
(6) Strongly Disagree

11. To be honest, you can’t really increase your ability to save money.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

12. You can learn new saving practices, but you can’t really increase your basic saving ability.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

Table 16

Pilot Study Group R Control Material and Intervention Questions

1. Governments use economic theory to guide public policy.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

2. Getting the right incentives in place is critical for economic policy to work well.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

3. Macroeconomics and microeconomics study similar things in the economy.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

4. You have a certain ability to save money, and you can't really do much to change it.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

5. A recession is 6 months of decrease in real GDP (Gross Domestic Product).

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree

(5) Disagree
(6) Strongly Disagree
6. Your ability to save money is something about you that you can't increase very much.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

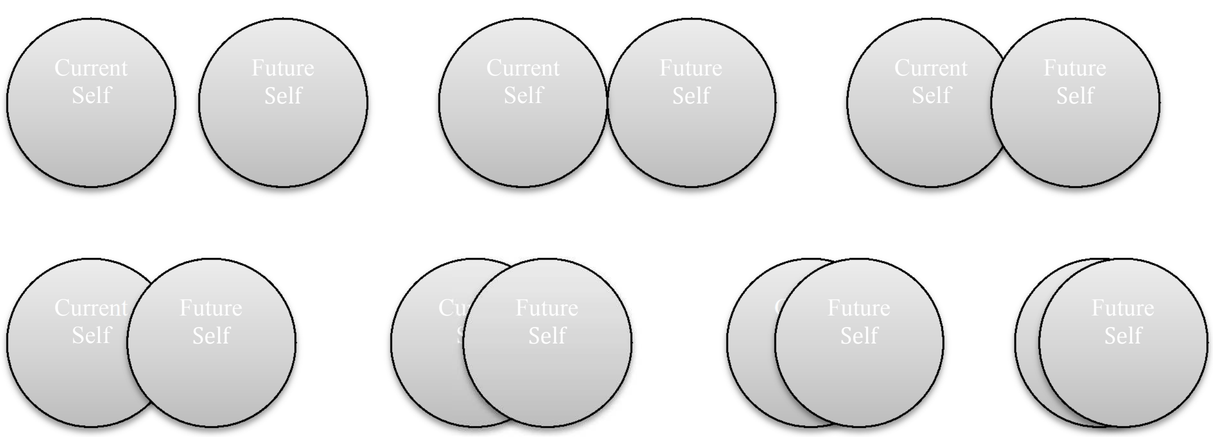
7. To be honest, you can't really increase your ability to save money.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

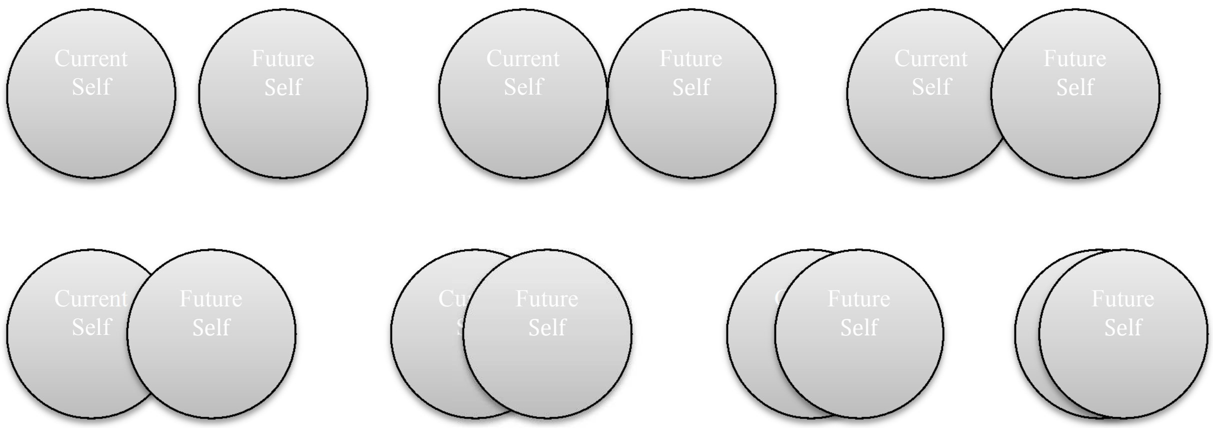
8. You can learn new saving practices, but you can't really increase your basic saving ability.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

9. Click on the picture below that best describes how similar you feel with your future self (you in 10 years). Current self = you now. Future self = you in 10 years.



10. Click on the picture below that best describes how connected you feel with your future self (you in 10 years). Current self = you now. Future self = you in 10 years.



11. Please indicate below how much you care about your future self ten years from now.

(1) I don't care at all
(2) I don't really care
(3) I don't care a whole lot
(4) Undecided
(5) I care a little
(6) I care somewhat
(7) I completely care

12. Please indicate below how much you like your future self ten years from now.

(1) I don't like at all
(2) I don't really like
(3) I don't like a whole lot
(4) Undecided
(5) I like a little
(6) I like somewhat
(7) I completely like

Table 17

Pilot Study Group S Intervention Questions

1. You have a certain ability to save money, and you can’t really do much to change it.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

2. Your ability to save money is something about you that you can’t increase very much.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

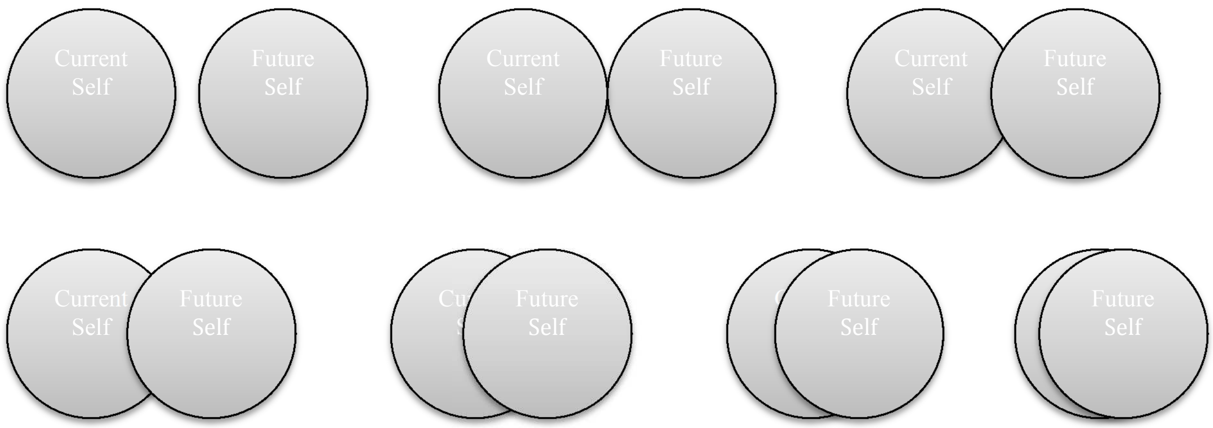
3. To be honest, you can’t really increase your ability to save money.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

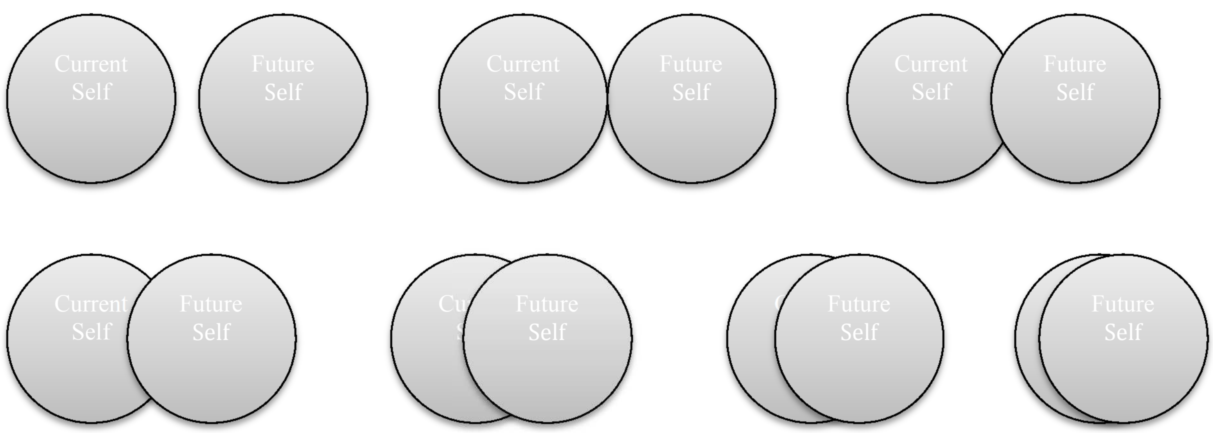
4. You can learn new saving practices, but you can’t really increase your basic saving ability.

(1) Strongly Agree
(2) Agree
(3) Mostly Agree
(4) Mostly Disagree
(5) Disagree
(6) Strongly Disagree

5. Click on the picture below that best describes how similar you feel with your future self (you in 10 years). Current self = you now. Future self = you in 10 years.



6. Click on the picture below that best describes how connected you feel with your future self (you in 10 years). Current self = you now. Future self = you in 10 years.



7. Please indicate below how much you care about your future self ten years from now.

(1) I don’t care at all
(2) I don’t really care
(3) I don’t care a whole lot
(4) Undecided
(5) I care a little
(6) I care somewhat
(7) I completely care

8. Please indicate below how much you like your future self ten years from now.

(1) I don’t like at all
(2) I don’t really like
(3) I don’t like a whole lot
(4) Undecided
(5) I like a little
(6) I like somewhat
(7) I completely like

9. Making and using a budget gives me a lot of financial power.

(1) Strongly Agree
(2) Agree
(3) Undecided
(4) Disagree
(5) Strongly Disagree

10. Setting aside some emergency money now can help me prepare for when financial emergencies come.

(1) Strongly Agree
(2) Agree
(3) Undecided
(4) Disagree
(5) Strongly Disagree

11. Good debt (ex: well priced mortgage) can help me more than bad debt (ex: credit card interest fees).

(1) Strongly Agree
(2) Agree
(3) Undecided
(4) Disagree

(5) Strongly Disagree

12. Saving a little money each day can build up a lot of money in the future.

(1) Strongly Agree
(2) Agree
(3) Undecided
(4) Disagree
(5) Strongly Disagree

Table 18

Post-Pilot Study Questions

1. What did you like about the study?

2. What did you dislike about the study?

3. What was confusing about the study?

4. How can the study be improved?

5. Did you look through everything?

6. Did you skip through any of the sections?

7. Do you think other people will spend the time to look though all the material?

8. Do you feel the study is too long?

9. Is there something you feel is lacking in the study?

10. Do you feel the study is too short?

11. What do you need to better understand the new information in the study?

12. What do you need to better answer the study questions?

Table 19

Principal Components Analysis for Stages of Saving Change Pre-Test Data

	Components		Communalities
	Action / Maintenance	Pre-Contemplation / Contemplation	Extraction
StChPreQ_1	**-.30**	-.21	.13
StChPreQ_5	**-.44**	-.34	.31
StChPreQ_7	.00	**-.78**	.61
StChPreQ_16	.40	**-.41**	.33
StChPreQ_19	-.25	**-.38**	.21
StChPreQ_22	-.06	**-.51**	.26
StChPreQ_3	-.24	**.70**	.54
StChPreQ_6	-.33	**.70**	.59
StChPreQ_9	.35	**.43**	.31
StChPreQ_13	-.20	**.64**	.45
StChPreQ_14	-.07	**.60**	.37
StChPreQ_17	-.34	**.66**	.54
StChPreQ_2	**.81**	.07	.66
StChPreQ_4	**.54**	.31	.39
StChPreQ_8	**.38**	.34	.27
StChPreQ_11	.27	**.56**	.39
StChPreQ_18	**.88**	-.12	.79
StChPreQ_23	**.85**	.00	.72
StChPreQ_10	**.87**	-.15	.77
StChPreQ_12	**.63**	-.13	.41
StChPreQ_15	**.84**	-.12	.72
StChPreQ_20	**.85**	-.16	.75
StChPreQ_21	**.91**	-.13	.85
StChPreQ_24	**.84**	-.15	.72

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

Table 20

Principal Components Analysis for Stages of Saving Change Post-Test Data

	Components		Communalities
	Action / Maintenance	Pre-contemplation / Contemplation	Extraction
StChPosQ_1	**-.26**	.24	.15
StChPosQ_5	-.44	**.46**	.48
StChPosQ_7	-.03	**.45**	.21
StChPosQ_16	.28	**.52**	.30
StChPosQ_19	-.23	**.59**	.44
StChPosQ_22	-.18	**.60**	.42
StChPosQ_3	-.17	**-.88**	.76
StChPosQ_6	-.13	**-.65**	.41
StChPosQ_9	.23	**-.63**	.49
StChPosQ_13	-.02	**-.79**	.62
StChPosQ_14	-.02	**-.71**	.50
StChPosQ_17	-.22	**-.88**	.76
StChPosQ_2	**.81**	.10	.63
StChPosQ_4	**.58**	-.18	.39
StChPosQ_8	**.66**	.05	.43
StChPosQ_11	.26	**-.53**	.39
StChPosQ_18	**.81**	-.16	.73
StChPosQ_23	**.79**	-.16	.69
StChPosQ_10	**.85**	.20	.71
StChPosQ_12	**.71**	.08	.50
StChPosQ_15	**.75**	-.02	.57
StChPosQ_20	**.90**	.18	.79
StChPosQ_21	**.88**	.01	.77
StChPosQ_24	**.88**	-.04	.79

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

Table 21

Descriptive Statistics of All Study Variables

Descriptive Statistics for All Study Variables

	N	Range	Min	Max	*M*	*SD*
Pre Readiness to Change Score	80.00	8.57	4.43	13.00	9.37	1.91
Post Readiness to Change Score	80.00	8.80	5.00	13.81	9.60	2.11
Difference Btwn Pre Readiness to Change Scores	80.00	7.73	-3.56	4.17	.23	1.19
Intent Save Pre score	80.00	14.00	11.00	25.00	20.79	2.95
Intent Save Post Score	80.00	10.00	15.00	25.00	21.09	2.77
Intent Save Difference Btwn Pre Post Scores	80.00	11.00	-5.00	6.00	.30	2.47
Incremental Pre Score	60.00	20.00	4.00	24.00	11.23	4.66
Incremental Post Score	60.00	20.00	4.00	24.00	9.43	4.99
Incremental Difference Btwn Pre Post	60.00	25.00	-13.00	12.00	-1.80	4.39
Inc Man Chk	59.00	4.00	2.00	6.00	5.24	.80
Fut Self Pre Total Score	40.00	18.00	10.00	28.00	21.20	4.21
Fut Self Post Total Score	40.00	17.00	11.00	28.00	21.77	4.28
Future Self Difference Btwn Pre Post	40.00	16.00	-6.00	10.00	.57	2.80
FutSelfManChk	40.00	3.00	4.00	7.00	6.30	.97
Fin Lit Pre Score	20.00	5.00	15.00	20.00	18.34	1.83
Fin Lit Post Score	20.00	6.00	14.00	20.00	18.10	2.08
Fin Lit Difference Btwn Pre Post	20.00	6.00	-3.00	3.00	-.24	1.21
FinLitManChk	20.00	1.00	4.00	5.00	4.55	.51
MC Total Score	80.00	8.00	2.00	10.00	6.85	1.97
Gender	80.00	1.00	1.00	2.00	1.11	.32

Age	80.00	44.00	21.00	65.00	35.73	13.43
MarStat	80.00	2.00	1.00	3.00	1.69	.76
AdulHous	80.00	6.00	.00	6.00	2.21	.99
ChilHous	80.00	9.00	.00	9.00	1.18	1.59
Race	80.00	3.00	1.00	4.00	1.75	1.07
Educat	80.00	3.00	2.00	5.00	3.11	.77
HousIncom	80.00	135000.00	15000.00	150000.00	60503.27	36750.85
Assets	80.00	149750.00	250.00	150000.00	38606.09	50961.19
Debt	80.00	149750.00	250.00	150000.00	49384.06	52602.85
ParSES	80.00	3.00	2.00	5.00	3.29	.90
ParSav	80.00	4.00	1.00	5.00	2.76	1.38
CompPhon	80.00	1.00	1.00	2.00	1.14	.35

Table 22

Correlations Among All Study Variables

Correlations of All Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1																			
2	.25*																		
3	-.06	-.24*																	
4	.14	.13	-.02																
5	.08	-.03	.05	-.11															
6	-.04	.10	-.14	.17	-.11														
7	-.12	-.11	-.05	-.07	.20	-.11													
8	.08	.08	.22*	.01	.05	.05	.04												
9	-.01	.07	.00	.08	-.18	.03	.10	.09											
10	-.10	.08	-.02	-.05	-.36	.16	-.06	-.16	-.11										
11	.05	.13	.07	.16	-.10	.11	-.12	-.07	-.14	.00									
12	-.10	-.04	-.01	-.10	.04	.13	.24*	-.12	-.16	.17	.09								
13	.04	.05	.06	-.08	-.25	-.09	-.01	.19*	.05	.05	-.23*	.02							
14	.06	-.03	.02	-.20	-.45*	-.05	.13	.19*	-.45**	.28**	-.04	-.05	.25*						
15	.13	.08	-.01	.01	-.12	.08	.04	.40**	-.25*	-.07	-.08	-.22*	.16	.62**					
16	.10	.00	-.09	.08	-.04	.01	.23*	.24*	-.25*	.09	.02	-.08	.10	.49**	.66**				
17	-.09	.21*	.01	.07	.15	.22*	-.06	-.03	-.20*	.03	.41**	.39**	-.03	-.07	-.11	-.15			
18	-.17	.01	.08	.02	-.09	-.02	.09	-.10	.01	.14	-.07	.16	-.04	.02	-.11	-.16	-.27**		
19	-.02	-.20*	.02	.17	-.22	-.25*	-.03	-.12	.02	-.20	-.11	-.15	-.15	.00	-.01	-.08	-.05	-.04	

*. Correlation is significant at the 0.05 level (1-tailed).

**. Correlation is significant at the 0.01 level (1-tailed).

Table 23

Correlations Among All Study Variable Titles

1. Stages of Saving Change Score
2. Intent to Save Score
3. Incremental Saving Intervention Score
4. Future Financial-Self Intervention Score
5. Financial Literacy Training Score
6. Marlow-Crowne Social Desirability Short Scale Score
7. Gender
8. Age
9. Marital Status
10. Number of Adults in the Household
11. Number of Children in the Household
12. Race
13. Education Level
14. Household Income
15. Financial Assets
16. Financial Debt
17. Parents SES when Participants Were Children
18. Participants' Perception of How Well Their Parents Saved Money as Children
19. Use of a Computer or a Smartphone to Complete the Study

Table 24

Correlation Table

Correlation Table

	1. Increm Sav Int	2. Parents SES	3. Age
1. Increm Sav Int			
2. Parents SES	.01		
3. Age	.22*	-.03	

Note. *p<0.05 (1-tailed).
1. Incremental Saving Intervention
2. Parents SES when Participants were Children
3. Age

Table 25

Summary of Regression Analysis for Testing Incremental Saving Intervention on Intent to Save

Summary of Regression Analysis Testing Incremental Saving Intervention on Intent to Save

Variable	β	t	sr^2	R	R^2	F-Value
Model				.37	.14	3.00*
1. Par SES	.22	1.79	.34			
2. Age	.03	.19	.02			
3. Inc Sav Int	-.29*	-2.24	.07			

Note. *N*=60. *p<.05
DV: Intent to Save
1. Parents SES when Participants were Children
2. Age
3. Incremental Saving Intervention

Table 26

Correlation Table

Correlation Table

	1. Int Save	2.Par SES	3. Age	4.Inc Sav Int
1. Intent to Save				
2. Parents SES	.21			
3. Age	.12	-.03		
4. Incremental Saving Interv	.03*	.01	.22*	

Note. *p<.05
1. DV: Intent to Save
2. Parents SES when Participants were Children
3. Age
4. Incremental Saving Intervention

Table 27

Correlation Table

Correlation Table

	1	2	3	4	5
1					
2	-.06				
3	.09	-.07			
4	-.09	.01	.10		
5	.08	.22*	-.10	.03	

Note. *p<.05 level (1-tailed).
1. Stages of Saving Change
2. Incremental Saving Intervention
3. Marlow-Crowne Social Desirability Short Scale
4. Parents SES when Participants were Children
5. Age

Table 28

Summary of Hierarchical Regression Analysis for Variables Testing Intent to Save

Summary of Hierarchical Regression Analysis for Variables Testing Intent to Save

Variable	β	*t*	sr^2	*R*	R^2	ΔR^2	F-Value
Step 1				.25	.06	.06	1.25
ParSES	.21	1.55	.36				
Age	.13	.99	.02				
MC	.04	.30	.17				
Step 2				.42	.17	.11	7.39*
ParSES	.22	1.75	.34				
Age	.10	.82	.02				
MC	.03	.24	.16				
StCh	.34*	2.72	.24				
Step 3				.49	.24	.06	4.40*
ParSES	.23	1.90	.33				
Age	.16	1.28	.02				
MC	.00	-.03	.16				
StCh	.32*	2.63	.24				
IncrSav	-.26*	-2.10	.07				

Note. *N*=60; *p<.05

DV: Intent to Save

Step 1) Parents SES when Participants were Children, Age, Marlow-Crowne Scale

Step 2) Add Stages of Saving Change

Step 3) Add Incremental Saving Intervention

Table 29

Correlation Table

Correlation Table

	1	2	3	4	5	6
1						
2	.21					
3	.12	-.03				
4	.08	.25*	-.08			
5	.33*	-.04	.08	.01		
6	-.24*	.01	.22*	-.14	-.06	

Note. *p<.05.
1) DV: Intent to Save
2) Parents SES when Participants were Children
3) Age
4) Marlow-Crowne Social Desirability Short Scale
5) Stages of Saving Change
6) Incremental Saving Intervention

Table 30

Summary of Alternate Regression Analysis for Variables Testing Intent to Save

Summary of Alternate Regression Analysis for Variables Testing Intent to Save

Variable	β	*t*	sr^2	*R*	R^2	F-Value
Model				.51	.26	2.63*
1. Low	.31	1.98	.36			
2. L/M	.09	.51	.02			
3. Mid	.03	.15	.17			
4. Age	.16	1.27	.02			
5. MC	-.01	-.08	.16			
6. St Ch	.30*	2.50	.24			
7. Inc Sav	-.26*	-2.05	.33			

Note. *p<.05
DV: Intent Save Difference
1. Participants' Parents Lower SES as Children
2. Participants' Parents Lower-Middle SES as Children
3. Participants' Parents Middle SES as Children
4. Age
5. Marlow-Crowne Social Desirability Short Scale
6. Stages of Saving Change
7. Incremental Saving Intervention

Table 31

Summary Table of Paired Samples T-Tests

Stages of Saving Change

Groups	*N*	*M*	*t*	*sd*	*p*
P	20	.23	1.01	.95	.15
Q	20	.12	.49	1.14	.32
R	20	.18	.86	.96	.20
S	20	.39	1.05	1.66	.15

Intent to Save

Groups	*N*	*M*	*t*	*sd*	*p*
P	20	-.01	-.01	2.38	.50
Q	20	.20	.27	3.29	.39
R	20	.26	.47	2.51	.32
S	20	.73	2.20	1.49	.02

Table 32

DV Stages of Saving Change & Intent to Save Group Means

Stages of Saving Change

	Pre-Test Score	Post-Test Score	Difference
Group P	9.21	9.43	.23
Group Q	9.30	9.43	.13
Group R	9.45	9.63	.18
Group S	9.52	9.91	.39

Readiness to Change Score cutoffs were as follows: Pre-contemplation = 8 or lower, Contemplation = 8-11, Preparation or Action = 11-14.

Intent to Save

	Pre-Test Score	Post-Test Score	Difference
Group P	21.35	21.35	.00
Group Q	21.00	21.20	.20
Group R	20.55	20.81	.26
Group S	20.26	20.99	.73

Note. P=Control Group, Q=Incremental Intervention, R=Incremental and Future Self Intervention, S=Incremental, Future Self, and Financial Literacy Intervention

Table 33

Table for Study Measures and Response Options

Study Measures and Response Options

Scale Name	# of Items	Response Options
Measurement of Stages of Saving Change	24	1=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree
Intent so Save	5	1=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree
Theories of Financial Saving (Incremental Saving Scale)	4	1=Strongly Disagree, 2=Disagree, 3=Mostly Disagree, 4=Mostly Agree, 5=Agree, 6=Strongly Agree.
Future Self-Continuity Measure Part I	2	1=not similar/connected, 2=barely similar/connected, 3=a little similar/connected, 4=somewhat similar/connected, 5=more similar/connected, 6=similar/connected, 7=very similar/connected
Future Self-Continuity Measure Part II	2	1=I don't care/like at all, 2=I don't really care/like, 3=I don't care/like a whole lot, 4=Undecided, 5=I care/like a little, 6=I care/like somewhat, 7=I completely care/like.
Financial Fitness Instrument Adapted	4	1=strongly disagree, 2=disagree, 3=undecided, 4=agree, 5=strongly agree
Marlow-Crowne Social Desirability Short Scale	10	True or False
Demographics:		
Gender	1	Male or Female
Age	1	18-24 25-34 35-44 45-54 55-64

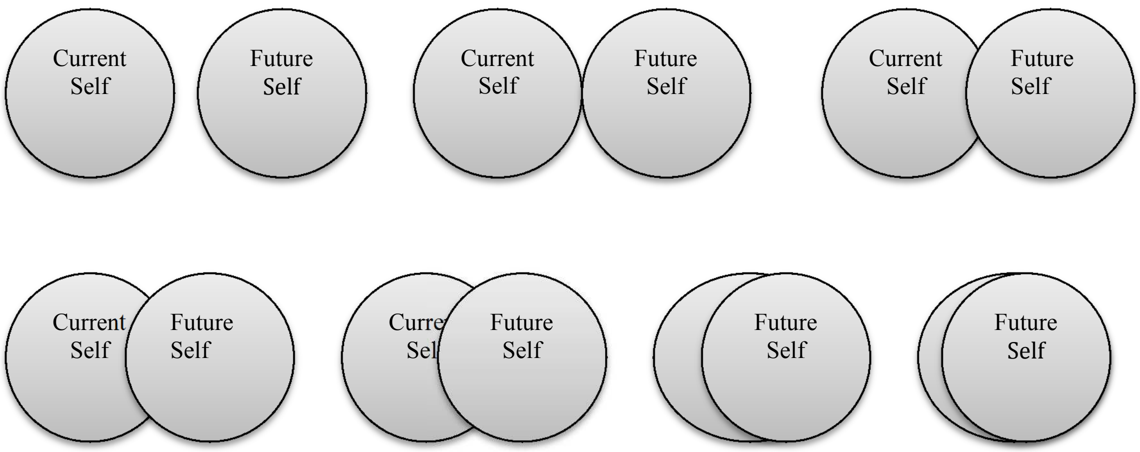
		65 and over
Education Level	1	Did Not Complete High School
		High School Graduate
		Some College
		College Graduate
		Post Graduate Education
Household Income	1	Less than $15,000
		$15,000 to $24,999
		$25,000 to $34,999
		$35,000 to $49,999
		$50,000 to $74,999
		$75,000 to $99,999
		$100,000 to $149,000
		$150,000 or more
Race & Ethnicity	1	White
		Black
		Hispanic
		Asian or Other
Value of Current Assets	1	$0-$500
		$501-$1,000
		$1,001-$5,000
		$5,001-$10,000
		$10,001-$20,000
		$20,001-$30,000
		$30,001-$40,000
		$40,001-$50,000
		$50,001-$60,000
		$60,001-$70,000
		$70,001-$80,000
		$80,001-$90,000
		$90,001-$100,000
		$100,001-$125,000
		$125,001-$150,000
		More than $150,000
Current Debt Amount	1	$0-$500
		$501-$1,000
		$1,001-$5,000
		$5,001-$10,000
		$10,001-$20,000
		$20,001-$30,000
		$30,001-$40,000

		$40,001-$50,000 $50,001-$60,000 $60,001-$70,000 $70,001-$80,000 $80,001-$90,000 $90,001-$100,000 $100,001-$125,000 $125,001-$150,000 More than $150,000
Martial Status	1	Married Single Never Married Divorced, Separated, or Widowed
# of Adults in Household	1	# age 18 years of older
# of Children in Household	1	# age 17 years or younger
Parent's Socioeconomic Status	1	1=Upper Class, 2=Upper Middle Class, 3=Middle Class, 4=Lower Middle Class, 5=Lower Class
Participant's Perception of Parents Save	1	1=Strongly Disagree, 2=Disagree, 3=Undecided, 4=Agree, 5=Strongly Agree
Use of a Computer or Smartphone to Complete the Study	1	Computer Smartphone

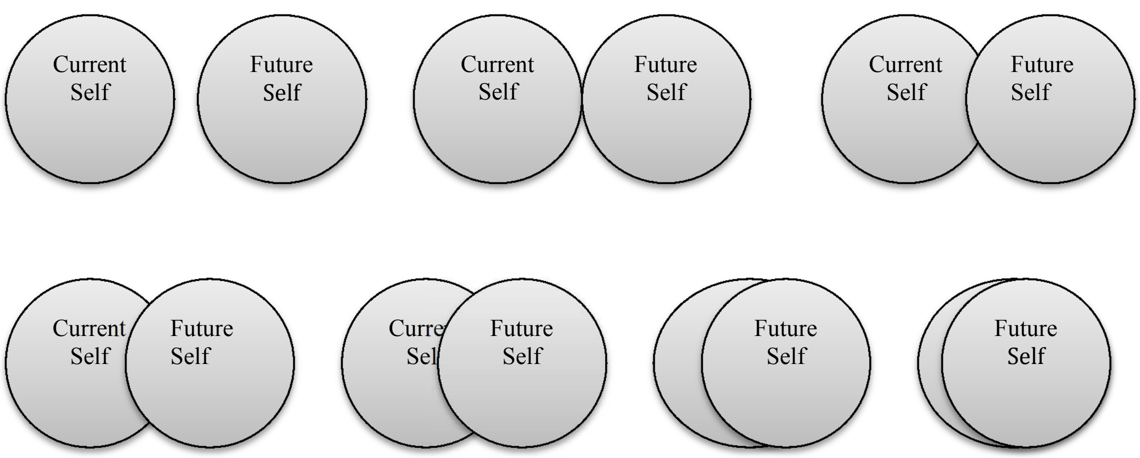
Figure 1.

Future Self-Continuity Measure Part I, Scale

Instructions: Click on the picture below that best describes how similar you feel with your future self (you in 10 years). Current self = you now. Future self = you in 10 years.



Instructions: Click on the picture below that best describes how connected you feel with your future self (you in 10 years). Current self = you now. Future self = you in 10 years.



Note. Scale taken from Hershfield, H. E., Cohen, T. R., & Thompson, L. (2012). Short horizons and tempting situations: Lack of continuity to our future selves leads to unethical decision making and behavior. *Organizational Behavior and Human Decision Processes,* 117, p. 301. doi: 10.1016/j.obhdp.2011.11.002; Ersner-Hershfield, H., Garton, M. T., Ballard, K., Samanez-Larkin, G. R., & Knutson, B. (June 2009). Don't stop thinking about tomorrow: Individual differences in future self-continuity account for saving. *Judgment and Decision Making, 4*(4), p. 281; Bryan, C. J., & Hershfield, H. E. (2012). You owe it to yourself: Boosting retirement saving with a responsibility-based appeal. *Journal of Experimental Psychology, 141*(3), p. 430.

Figure 2

Future Self-Continuity Measure Part II

Instructions: Please indicate below how much you care about your future self ten years from now

(1) I don’t care at all

(2) I don’t really care

(3) I don’t care a whole lot

(4) Undecided

(5) I care a little

(6) I care somewhat

(7) I completely care

Instructions: Please indicate below how much you like your future self ten years from now

(1) I don’t like at all

(2) I don’t really like

(3) I don’t like a whole lot

(4) Undecided

(5) I like a little

(6) I like somewhat

(7) I completely like

Note. Measure based on Ersner-Hershfield, H., Garton, M. T., Ballard, K., Samanez-Larkin, G. R., & Knutson, B. (June 2009). Don't stop thinking about tomorrow: Individual differences in future self-continuity account for saving. *Judgment and Decision Making, 4*(4), p. 281.

Figure 3

Study IVs: Incremental Saving Orientation, Future Financial Self Orientation, and Basic Financial Literacy, DV: Movement through the Transtheoretical Stages of Financial Saving Change

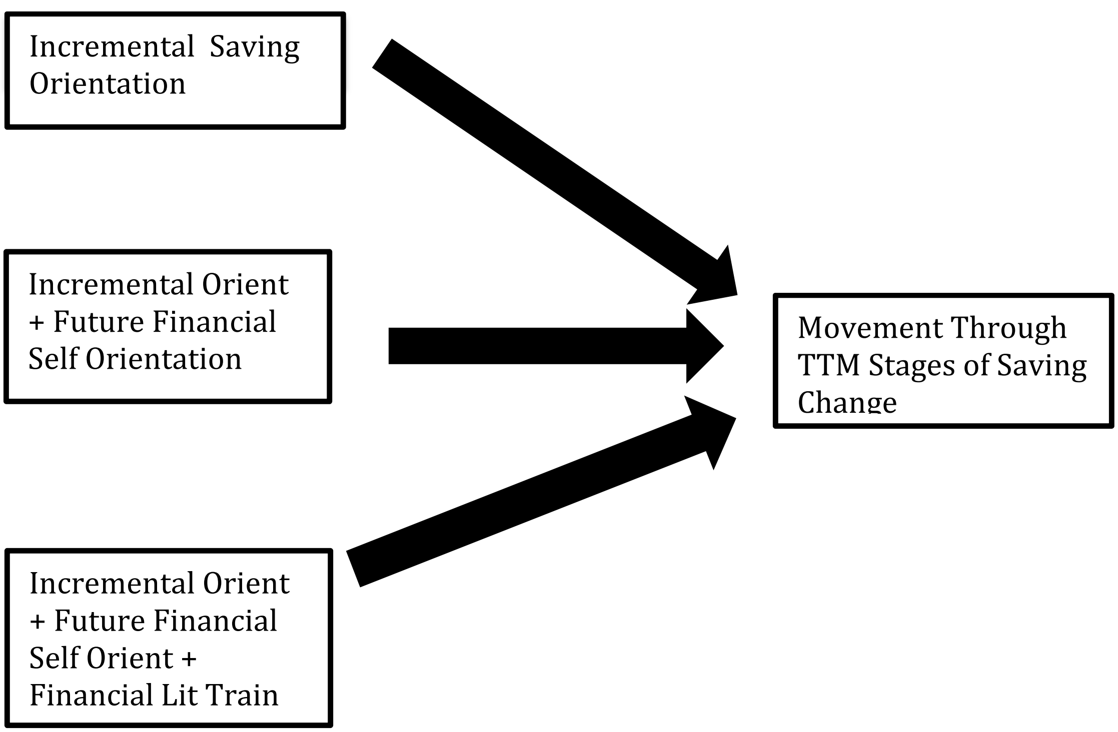


Figure 4

Study IVs: Incremental Saving Orientation, Future Financial Self Orientation, and Basic Financial Literacy, DV: Intention to Save Money

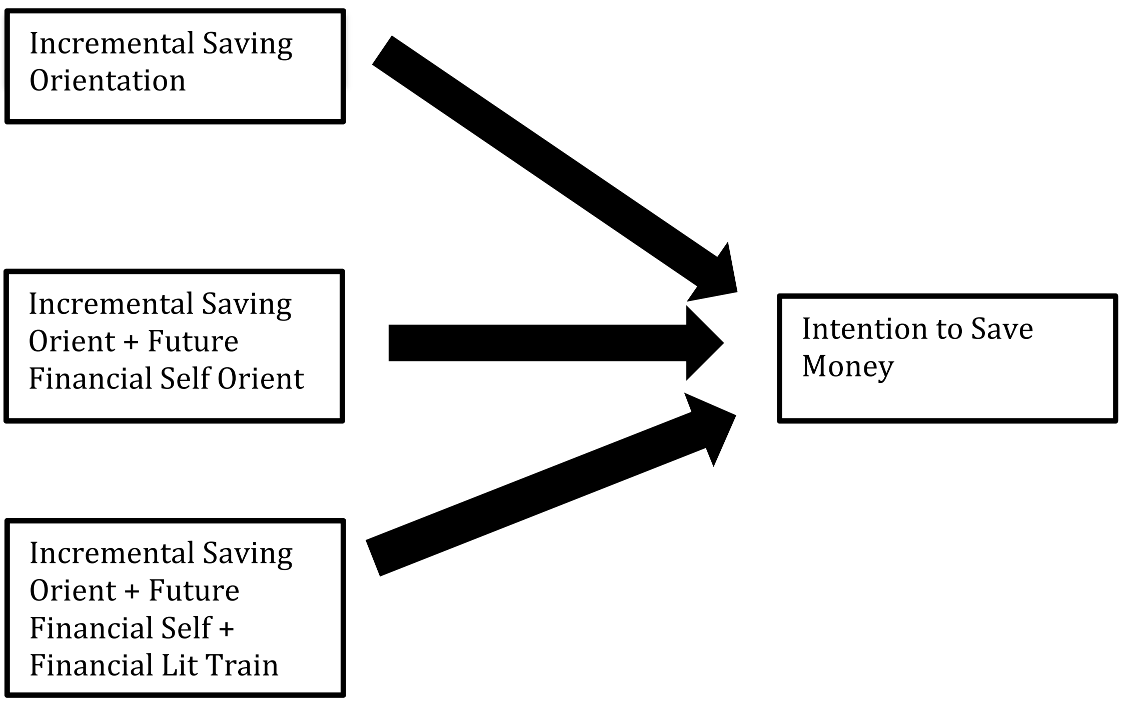


Figure 5

Procedure Graph for Four Between Groups Design

Group P: Control 45 minutes, Post Reflective Tests

Group Q: Control 30 minutes, Incremental Intro 15 minutes, Post Reflective Tests

Group R: Control 15 minutes, Incremental Intro 15 minutes, Future Self Intro 15 minutes, Post Reflective Tests

Group S: Incremental Intro 15 minutes, Future Self Intro 15 minutes, Financial Literacy Training 15 minutes, Post Reflective Tests

Appendix A

Invitation to Participate in the Pilot Study

You are invited to participate in an online financial self-reflection study. The study examines how people look at and think about our money. The study will take about one hour and will consist of watching videos and answering questions. Your answers will be completely confidential and will not be shared with anyone. You will be paid $20 to participate in the study. If you are interested in participating, please email kgreenman@nevada.unr.edu stating that you would like to participate. Please include your full name and your employer. If you have any questions, please contact us at kgreenman@nevada.unr.edu or ystedham@unr.edu. If you have any additional questions or concerns you may also contact the University of Nevada, Reno Research Integrity Office at 775-327-2368.
Thanks again for participating!

Kimberly Greenman, M.S.W., L.S.W.
Ph.D. Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
kgreenman@nevada.unr.edu

Dr. Yvonne Stedham, Ph.D., M.B.A.
Professor of Management,
University of Nevada, Reno
ystedham@unr.edu

Appendix B

Invitation to Participate in the Main Study

Watch videos and share your opinions about money!

- Your opinions will be completely confidential and will not be shared with anyone.
- Contribute to important UNR research.
- Participation will take approximately 1 hour and may be completed during work time. You can start and stop as many times as needed.
- Email kgreenman@nevada.unr.edu or text ###-### to participate.
- Specify first & last name & employer name

Participants will automatically be entered to win a $50 Amazon Gift Card.

Appendix C

Information Sheet - Face Page of Study

Thank you for participating in the Financial Self-Reflection Study, which will include watching videos and answering questions. It will take approximately one hour to complete. You are free to stop participating at any time, and may stop and resume the study as many times as you like for up to one week. The answers you provide will be completely confidential. No one will know what you wrote. It is impossible to connect your identity with the answers you provide. By answering the questions, you are contributing a valuable community service in helping improve financial management skills research. If you have any questions, please contact us at kgreenman@nevada.unr.edu or ystedham@unr.edu. If you have any additional questions or concerns you may also contact the University of Nevada, Reno Research Integrity Office at 775-327-2368.
Thanks again for participating!

Kimberly Greenman, M.S.W., L.S.W.
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Dr. Yvonne Stedham, Ph.D., M.B.A.
Professor of Management,
University of Nevada, Reno
ystedham@unr.edu

Appendix D

Debriefing Form

Thank you for your participation in the financial self-reflection study. Your willingness to offer community service in this capacity has helped research move forward into the realm of personal financial saving behavior. As a participant in the study, you were assigned to one of four groups receiving a combination of different saving interventions and / or control material. The questions you answered helped determine the impact the various interventions may have on financial saving intent. If you are interested in receiving a copy of study results, please request a copy at kgreenman@nevada.unr.edu and a copy will be sent to you. If you have any questions, please contact us at kgreenman@nevada.unr.edu or ystedham@unr.edu. If you have any additional questions or concerns you may also contact the University of Nevada, Reno Research Integrity Office at 775-327-2368.
Thanks again for your participation.

Kimberly Greenman, M.S.W., L.S.W.
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Dr. Yvonne Stedham, Ph.D., M.B.A.
Professor of Management,
University of Nevada, Reno
ystedham@unr.edu

Appendix E

Tahoe Fracture & Orthopedic Clinic Financial Self Reflection Study Participation Invite

May 27th, 2016

Tahoe Fracture and Orthopedic Clinic,
Attention: Chris Greenman, Administrator

Your business has been selected to participate in an employee financial self-reflection study. The proposed study will examine social psychological components that impact employee financial behavior.

Tahoe Fracture has been selected to participate in this study due to employee demographics, which overlap with those sought for in study participants. Through addressing employees' motivation and skills to manage personal financial decisions, benefits from their participation in the study will include increased financial well-being. Importantly, employee financial well-being has been correlated with employee productivity. Due to this, many employers have found offering programs that support their employees in aspects of personal finances has helped their companies financially. Companies who utilize some type of a financial wellness plan for employees indicate that it contributed to increase employee satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%).

If approved by management, Tahoe Fracture front office, back office, billing, and unlicensed medical support staff will be invited to participate in the study. The study will be approximately one-hour in duration and will be administered online. The study will encompass the introduction of financial introspective constructs and use questionnaires to elicit feedback. Individual employee responses will be confidential, though the aggregated results will be shared with the Tahoe Fracture and Orthopedic Clinic to use as desired. Employees will receive an incentive of $20 for participation in the study. Additionally, Tahoe Fracture and Orthopedic employees who complete the study will be entered into a drawing to receive a $50 Amazon Gift Card.

Participation in the study will potentially be a great benefit for your company as well as support ongoing employee financial management research. Please contact me for any additional questions you may have regarding participation in this study. And please send written confirmation of your organization's willingness for employees to participate in the study.

Thank You,
Kimberly Greenman, M.S.W., L.S.W.
Doctoral Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
kgreenman@nevada.unr.edu

Appendix F

Dialysis Clinic Incorporated Financial Self Reflection Study Participation Invitation

May 27th, 2016

Dialysis Clinic Incorporated,
Attention: Nick Favero

Your non-profit business has been selected to participate in an employee financial self-reflection study. The proposed study will examine social psychological components that impact financial behavior.

DCI has been selected to participate in this study due to employee demographics, which overlap with those sought for in study participants. Through addressing employees' motivation and skills to manage personal financial decisions, benefits from their participation in the study will include increased financial well-being. Importantly, employee financial well-being has been correlated with employee productivity. Due to this, many employers have found offering programs that support their employees in aspects of personal finances has helped their companies financially. Companies who utilize a financial wellness plan for employees indicate that it contributed to increase employee satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%).

If approved by management, DCI front office, back office, billing, and unlicensed medical support staff will be invited to participate in the study. The study will be approximately one-hour in duration and will be administered online. The study will encompass the introduction of financial introspective constructs and use questionnaires to elicit feedback. Individual employee responses will be confidential, though the aggregated results will be shared with DCI to use as desired. Employees will receive an incentive of $20 for participation in the study.

Participation in the study will potentially be a great benefit for your company as well as support ongoing employee financial management research. Please contact me for any additional questions you may have regarding participation in this study. And please send written confirmation of your organization's willingness for employees to participate in the study.

Thank You,

Kimberly Greenman, M.S.W., L.S.W.
Doctoral Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
kngreenman@nevada.unr.edu

Appendix G

ARCO Financial Self Reflection Study Participation Invitation

May 27th, 2016

ARCO,
Attention: Brandon and Terry Whitmer, Owners

Your business has been selected to participate in an employee financial self-reflection study. The proposed study will examine social psychological components that impact employee financial behavior.

ARCO has been selected to participate in this study due to employee demographics, which overlap with those sought for in study participants. Through addressing employees' motivation and skills to manage personal financial decisions, benefits from their participation in the study will include increased financial well-being. Importantly, employee financial well-being has been correlated with employee productivity. Due to this, many employers have found offering programs that support their employees in aspects of personal finances has helped their companies financially. Companies who utilize a financial wellness plan for employees indicate that it contributed to increase employee satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%).

If approved by management, ARCO employees will be invited to participate in the study. The study will be approximately one-hour in duration and will be administered online. The study will encompass the introduction of financial introspective constructs and use questionnaires to elicit feedback. Individual employee responses will be confidential, though the aggregated results will be shared with the ARCO Company to use as desired. Employees will each receive an incentive of $20 for participation in the study.

Participation in the study will potentially be a great benefit for your company as well as support ongoing employee financial management research. Please contact me for any additional questions you may have regarding participation in this study. And please send written confirmation of your organization's willingness for employees to participate in the study.

Thank You,

Kimberly Greenman, M.S.W., L.S.W.
Doctoral Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
kgreenman@nevada.unr.edu

Appendix H

Professional Billing Services West Financial Study Participation Invitation

June 29th, 2016

PBS West,
Attention: Steve Mims, President

Your business has been selected to participate in an employee financial self-reflection study. The proposed study will examine social psychological components that impact employee financial behavior.

PBS West has been selected to participate in this study due to employee demographics, which overlap with those sought for in study participants. Through addressing employees' motivation and skills to manage personal financial decisions, benefits from their participation in the study will include increased financial well-being. Importantly, employee financial well-being has been correlated with employee productivity. Due to this, many employers have found offering programs that support their employees in aspects of personal finances has helped their companies financially. Companies who utilize some type of a financial wellness plan for employees indicate that it contributed to increase employee satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%).

If approved by management, PBS employees will be invited to participate in the study. The study will be approximately one-hour in duration and will be administered online. The study will encompass the introduction of financial introspective constructs and use questionnaires to elicit feedback. Individual employee responses will be confidential, though the aggregated results will be shared with PBS West to use as desired. Employees will receive an incentive of $20 for participation in the study. Additionally, PBS West employees who complete the study will be entered into a drawing to receive a $50 Amazon Gift Card.

Participation in the study will potentially be a great benefit for your company as well as support ongoing employee financial management research. Please contact me for any additional questions you may have regarding participation in this study. And please send written confirmation of your organization's willingness for employees to participate in the study.

Thank You,

Kimberly Greenman, M.S.W., L.S.W.
Doctoral Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
kgreenman@nevada.unr.edu

Appendix I

The Reno Dentist Financial Self Reflection Study Participation Invitation

January 17th, 2017

The Reno Dentist,
Attention: Stephanie Tuia,

Your business has been selected to participate in a financial self-reflection study. The proposed study will examine social psychological components that impact employee financial behavior.

The Reno Dentist has been selected to participate in this study due to employee demographics, which overlap with those sought for in study participants. Through addressing employees' motivation and skills to manage personal financial decisions, benefits from their participation in the study will include increased financial well-being. Importantly, employee financial well-being has been correlated with employee productivity. Due to this, many employers have found offering programs that support their employees in aspects of personal finances has helped their companies financially. Companies who utilize a financial wellness plan for employees indicate that it contributed to increase employee satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%).

If approved by management, The Reno Dentist employees will be invited to participate in the study. The study will be approximately one-hour in duration and will be administered online. The study will encompass the introduction of financial introspective constructs and use questionnaires to elicit feedback. Individual employee responses will be confidential, though the aggregated results will be shared with The Reno Dentist to use as desired. Employees will each receive an incentive of $20 for participation in the study.

Participation in the study will potentially be a great benefit for your company as well as support ongoing employee financial management research. Please contact me for any additional questions you may have regarding participation in this study. And please send written confirmation of your organization's willingness for employees to participate in the study.

Thank You,

Kimberly Greenman, M.S.W., L.S.W.
Doctoral Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
kgreenman@nevada.unr.edu

Appendix J

High Desert Endodontics Financial Self Reflection Study Participation Invitation

January 17th, 2017

High Desert Endodontics,
Attention: Dr. Spencer Fullmer,

Your business has been selected to participate in a financial self-reflection study. The proposed study will examine social psychological components that impact employee financial behavior.

High Desert Endodontics has been selected to participate in this study due to employee demographics, which overlap with those sought for in study participants. Through addressing employees' motivation and skills to manage personal financial decisions, benefits from their participation in the study will include increased financial well-being. Importantly, employee financial well-being has been correlated with employee productivity. Due to this, many employers have found offering programs that support their employees in aspects of personal finances has helped their companies financially. Companies who utilize a financial wellness plan for employees indicate that it contributed to increase employee satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%).

If approved by your practice, employees will be invited to participate in the study. The study will be approximately one-hour in duration and will be administered online. The study will encompass the introduction of financial introspective constructs and use questionnaires to elicit feedback. Individual employee responses will be confidential, though the aggregated results will be shared with High Desert Endodontics to use as desired. Employees will each receive an incentive of $20 for participation in the study.

Participation in the study will potentially be a great benefit for your company as well as support ongoing employee financial management research. Please contact me for any additional questions you may have regarding participation in this study. And please send written confirmation of your organization's willingness for employees to participate in the study.

Thank You,

Kimberly Greenman, M.S.W., L.S.W.
Doctoral Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
kgreenman@nevada.unr.edu

Appendix K

Tahoe Carson Radiology Financial Self Reflection Study Participation Invitation

July 13th, 2017

Tahoe Carson Radiology,
Attention: Debbie Showalter, Assistant Administrator

Your medical group has been selected to participate in an employee financial self-reflection study. The proposed study will examine social psychological components that impact employee financial behavior.

Tahoe Carson Radiology has been selected to participate in this study due to employee demographics, which overlap with those sought for in study participants. Through addressing employees' motivation and skills to manage personal financial decisions, benefits from their participation in the study will include increased financial well-being. Importantly, employee financial well-being has been correlated with employee productivity. Due to this, many employers have found offering programs that support their employees in aspects of personal finances has helped their companies financially. Companies who utilize some type of a financial wellness plan for employees indicate that it contributed to increase employee satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%).

If approved by management, Tahoe Carson Radiology employees will be invited to participate in the study. The study will be approximately one-hour in duration and will be administered online. The study will encompass the introduction of financial introspective constructs and use questionnaires to elicit feedback. Individual employee responses will be confidential, though the aggregated results will be shared with Tahoe Carson Radiology to use as desired. Employees will receive an incentive of $20 for participation in the study.

Participation in the study will potentially be a great benefit for your medical group as well as support ongoing employee financial management research. Please contact me for any additional questions you may have regarding participation in this study. And please send written confirmation of your organization's willingness for employees to participate in the study.

Thank You,

Kimberly Greenman, M.S.W., L.S.W.
Doctoral Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
kngreenman@ymail.com

Appendix L

Yoga Pod Financial Self Reflection Study Participation Invitation

September 11th, 2017

Yoga Pod
Attention: Mike Fraley

Your business has been selected to participate in a financial self-reflection study. The proposed study will examine social psychological components that impact employee financial behavior.

Yoga Pod has been selected to participate in this study due to employee demographics, which overlap with those sought for in study participants. Through addressing employees' motivation and skills to manage personal financial decisions, benefits from their participation in the study will include increased financial well-being. Importantly, employee financial well-being has been correlated with employee productivity. Due to this, many employers have found offering programs that support their employees in aspects of personal finances has helped their companies financially. Companies who utilize a financial wellness plan for employees indicate that it contributed to increase employee satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%).

If approved by management, Yoga Pod employees will be invited to participate in the study. The study will be approximately one-hour in duration and will be administered online. The study will encompass the introduction of financial introspective constructs and use questionnaires to elicit feedback. Individual employee responses will be confidential, though the aggregated results will be shared with Yoga Pod to use as desired. Yoga Pod will receive a reimbursement of $20 per employee who completes the study. Additionally, Yoga Pod employees who complete the study will be entered into a drawing to receive a $50 Amazon Gift Card.

Participation in the study will potentially be a great benefit for your company as well as support ongoing employee financial management research. Please contact me for any additional questions you may have regarding participation in this study. And please send written confirmation of your organization's willingness for employees to participate in the study.

Thank You,

Kimberly Greenman, M.S.W., L.S.W.
Doctoral Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
kgreenman@nevada.unr.edu

Appendix M

Carson City Endodontics Financial Self Reflection Study Participation Invitation

September 29th[h], 2017

Carson City Endodontics
Attention: Chris Lingard, DMD

Your business has been selected to participate in a financial self-reflection study. The proposed study will examine social psychological components that impact employee financial behavior.

Carson City Endodontics has been selected to participate in this study due to employee demographics, which overlap with those sought for in study participants. Through addressing employees' motivation and skills to manage personal financial decisions, benefits from their participation in the study will include increased financial well-being. Importantly, employee financial well-being has been correlated with employee productivity. Due to this, many employers have found offering programs that support their employees in aspects of personal finances has helped their companies financially. Companies who utilize a financial wellness plan for employees indicate that it contributed to increase employee satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%).

If approved by management, Carson City Endodontics employees will be invited to participate in the study. The study will be approximately one-hour in duration and will be administered online. The study will encompass the introduction of financial introspective constructs and use questionnaires to elicit feedback. Individual employee responses will be confidential, though the aggregated results will be shared with Carson City Endodontics to use as desired. Carson City Endodontics will receive a reimbursement of $20 per employee who completes the study. Additionally, Carson City Endodontics employees who complete the study will be entered into a drawing to receive a $50 Amazon Gift Card.

Participation in the study will potentially be a great benefit for your company as well as support ongoing employee financial management research. Please contact me for any additional questions you may have regarding participation in this study. And please send written confirmation of your organization's willingness for employees to participate in the study.

Thank You,

Kimberly Greenman, M.S.W., L.S.W.
Doctoral Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
kgreenman@nevada.unr.edu

Appendix N

Stedham Electronics Financial Self Reflection Study Participation Invitation

October 2nd, 2017

Stedham Electronics
Attention: David Stedham

Your business has been selected to participate in a financial self-reflection study. The proposed study will examine social psychological components that impact employee financial behavior.

Stedham Electronics has been selected to participate in this study due to employee demographics, which overlap with those sought for in study participants. Through addressing employees' motivation and skills to manage personal financial decisions, benefits from their participation in the study will include increased financial well-being. Importantly, employee financial well-being has been correlated with employee productivity. Due to this, many employers have found offering programs that support their employees in aspects of personal finances has helped their companies financially. Companies who utilize a financial wellness plan for employees indicate that it contributed to increase employee satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%).

If approved by management, Stedham Electronics employees will be invited to participate in the study. The study will be approximately one-hour in duration and will be administered online. The study will encompass the introduction of financial introspective constructs and use questionnaires to elicit feedback. Individual employee responses will be confidential, though the aggregated results will be shared with Stedham Electronics to use as desired. Stedham Electronics will receive a reimbursement of $20 per employee who completes the study. Additionally, Stedham Electronics employees who complete the study will be entered into a drawing to receive a $50 Amazon Gift Card.

Participation in the study will potentially be a great benefit for your company as well as support ongoing employee financial management research. Please contact me for any additional questions you may have regarding participation in this study. And please send written confirmation of your organization's willingness for employees to participate in the study.

Thank You,

Kimberly Greenman, M.S.W., L.S.W.
Doctoral Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
kgreenman@nevada.unr.edu

Appendix O

LP Insurance Financial Self Reflection Study Participation Invitation

October 2nd, 2017

LP Insurance

Your business has been selected to participate in a financial self-reflection study. The proposed study will examine social psychological components that impact employee financial behavior.

LP Insurance has been selected to participate in this study due to employee demographics, which overlap with those sought for in study participants. Through addressing employees' motivation and skills to manage personal financial decisions, benefits from their participation in the study will include increased financial well-being. Importantly, employee financial well-being has been correlated with employee productivity. Due to this, many employers have found offering programs that support their employees in aspects of personal finances has helped their companies financially. Companies who utilize a financial wellness plan for employees indicate that it contributed to increase employee satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%).

If approved by management, LP Insurance employees will be invited to participate in the study. The study will be approximately one-hour in duration and will be administered online. The study will encompass the introduction of financial introspective constructs and use questionnaires to elicit feedback. Individual employee responses will be confidential, though the aggregated results will be shared with LP Insurance to use as desired. LP Insurance will receive a reimbursement of $20 per employee who completes the study. Additionally, LP Insurance employees who complete the study will be entered into a drawing to receive a $50 Amazon Gift Card.

Participation in the study will potentially be a great benefit for your company as well as support ongoing employee financial management research. Please contact me for any additional questions you may have regarding participation in this study. And please send written confirmation of your organization's willingness for employees to participate in the study.

Thank You,

Kimberly Greenman, M.S.W., L.S.W.
Doctoral Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
775-742-5942

Appendix P

Valley Veterinary Clinic Financial Self Reflection Study Participation Invitation

October 6th, 2017

Valley Veterinary Clinic
Attention: Charlyce Altom

Your business has been selected to participate in a financial self-reflection study. The proposed study will examine social psychological components that impact employee financial behavior.

Valley Veterinary Clinic has been selected to participate in this study due to employee demographics, which overlap with those sought for in study participants. Through addressing employees' motivation and skills to manage personal financial decisions, benefits from their participation in the study will include increased financial well-being. Importantly, employee financial well-being has been correlated with employee productivity. Due to this, many employers have found offering programs that support their employees in aspects of personal finances has helped their companies financially. Companies who utilize a financial wellness plan for employees indicate that it contributed to increase employee satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%).

If approved by management, Valley Veterinary Clinic employees will be invited to participate in the study. The study will be approximately one-hour in duration and will be administered online. The study will encompass the introduction of financial introspective constructs and use questionnaires to elicit feedback. Individual employee responses will be confidential, though the aggregated results will be shared with Valley Veterinary Clinic to use as desired. Valley Veterinary Clinic will receive a reimbursement of $20 per employee who completes the study. Additionally, Valley Veterinary Clinic employees who complete the study will be entered into a drawing to receive a $50 Amazon Gift Card.

Participation in the study will potentially be a great benefit for your company as well as support ongoing employee financial management research. Please contact me for any additional questions you may have regarding participation in this study. And please send written confirmation of your organization's willingness for employees to participate in the study.

Thank You,

Kimberly Greenman, M.S.W., L.S.W.
Doctoral Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
kgreenman@nevada.unr.edu

Appendix Q

Orthodontic Partners Financial Self Reflection Study Participation Invitation

October 6th, 2017

Orthodontic Partners
Attention: Dan Walton, DDS, MS

Your business has been selected to participate in a financial self-reflection study. The proposed study will examine social psychological components that impact employee financial behavior.

Orthodontic Partners has been selected to participate in this study due to employee demographics, which overlap with those sought for in study participants. Through addressing employees' motivation and skills to manage personal financial decisions, benefits from their participation in the study will include increased financial well-being. Importantly, employee financial well-being has been correlated with employee productivity. Due to this, many employers have found offering programs that support their employees in aspects of personal finances has helped their companies financially. Companies who utilize a financial wellness plan for employees indicate that it contributed to increase employee satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%).

If approved by management, Orthodontic Partners employees will be invited to participate in the study. The study will be approximately one-hour in duration and will be administered online. The study will encompass the introduction of financial introspective constructs and use questionnaires to elicit feedback. Individual employee responses will be confidential, though the aggregated results will be shared with Orthodontic Partners to use as desired. Orthodontic Partners will receive a reimbursement of $20 per employee who completes the study. Additionally, Orthodontic Partners employees who complete the study will be entered into a drawing to receive a $50 Amazon Gift Card.

Participation in the study will potentially be a great benefit for your company as well as support ongoing employee financial management research. Please contact me for any additional questions you may have regarding participation in this study. And please send written confirmation of your organization's willingness for employees to participate in the study.

Thank You,

Kimberly Greenman, M.S.W., L.S.W.
Doctoral Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
kgreenman@nevada.unr.edu

Appendix R

Advanced Supply Chain Logistics Financial Self Reflection Study Participation Invite

October 5th, 2017

Advanced Supply Chain Logistics
Attention: Jack Kellerstrass

Your business has been selected to participate in a financial self-reflection study. The proposed study will examine social psychological components that impact employee financial behavior.

Advanced Supply Chain Logistics has been selected to participate in this study due to employee demographics, which overlap with those sought for in study participants. Through addressing employees' motivation and skills to manage personal financial decisions, benefits from their participation in the study will include increased financial well-being. Importantly, employee financial well-being has been correlated with employee productivity. Due to this, many employers have found offering programs that support their employees in aspects of personal finances has helped their companies financially. Companies who utilize a financial wellness plan for employees indicate that it contributed to increase employee satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%).

If approved by management, Advanced Supply Chain Logistics employees will be invited to participate in the study. The study will be approximately one-hour in duration and will be administered online. The study will encompass the introduction of financial introspective constructs and use questionnaires to elicit feedback. Individual employee responses will be confidential, though the aggregated results will be shared with Advanced Supply Chain Logistics to use as desired. Advanced Supply Chain Logistics will receive a reimbursement of $20 per employee who completes the study. Additionally, Advanced Supply Chain Logistics employees who complete the study will be entered into a drawing to receive a $50 Amazon Gift Card.

Participation in the study will potentially be a great benefit for your company as well as support ongoing employee financial management research. Please contact me for any additional questions you may have regarding participation in this study. And please send written confirmation of your organization's willingness for employees to participate in the study.

Thank You,
Kimberly Greenman, M.S.W., L.S.W.
Doctoral Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
kgreenman@nevada.unr.edu

Appendix S

Carpenter Music World Financial Self Reflection Study Participation Invite

October 5th, 2017

Carpenters Music World
Attention: Wendell Carpenter

Your business has been selected to participate in a financial self-reflection study. The proposed study will examine social psychological components that impact employee financial behavior.

Carpenters Music has been selected to participate in this study due to employee demographics, which overlap with those sought for in study participants. Through addressing employees' motivation and skills to manage personal financial decisions, benefits from their participation in the study will include increased financial well-being. Importantly, employee financial well-being has been correlated with employee productivity. Due to this, many employers have found offering programs that support their employees in aspects of personal finances has helped their companies financially. Companies who utilize a financial wellness plan for employees indicate that it contributed to increase employee satisfaction (78%), loyalty (70%), engagement (68%), and productivity (57%).

If approved by management, Carpenters Music employees will be invited to participate in the study. The study will be approximately one-hour in duration and will be administered online. The study will encompass the introduction of financial introspective constructs and use questionnaires to elicit feedback. Individual employee responses will be confidential, though the aggregated results will be shared with Carpenters Music to use as desired. Carpenters Music will receive a reimbursement of $20 per employee who completes the study. Additionally, Carpenters Music employees who complete the study will be entered into a drawing to receive a $50 Amazon Gift Card.

Participation in the study will potentially be a great benefit for your company as well as support ongoing employee financial management research. Please contact me for any additional questions you may have regarding participation in this study. And please send written confirmation of your organization's willingness for employees to participate in the study.

Thank You,

Kimberly Greenman, M.S.W., L.S.W.
Doctoral Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
kgreenman@nevada.unr.edu

Appendix T

ARCO Whitmer Franchise Financial Self Reflection Study Participation Acceptance

CITY GAS, LLC

PO BOX 20553
CARSON CITY, NV 89721
775-721-5359

June 4, 2016

To Whom It May Concern:

This ARCO ampm Franchise authorizes its employees to participate in the Financial Self-Reflections study to be conducted by Kimberly Greenman. Previous to the study being conducted, an ARCO ampm Franchise representative will give Kimberly general demographic information of the participating employees as a whole. ARCO ampm will be notified before the study begins and when it concludes. Additionally, ARCO ampm will receive a copy of the aggregated results of the study at no charge.

Thank you,

Brandon Whitmer,
Owner

Appendix U

Tahoe Fracture & Orthopedic Financial Self Reflection Study Participation Acceptance

Tahoe Fracture & Orthopedic
Medical Clinic, Inc.
Relieving your pain. Restoring your function. Returning your life.

June 6th, 2016

To Whom It May Concern,

Tahoe Fracture authorizes its front office, back office, billing, and unlicensed medical support employees to participate in the Financial Self-Reflections study to be conducted by Kimberly Greenman. Previous to the study being conducted, a Tahoe Fracture representative will give Kimberly general demographic information of the participating employees as a whole. Tahoe Fracture will be notified before the study begins and when it concludes. Additionally, Tahoe Fracture will receive a copy of the aggregated results of the study at no charge.

Thank You,

Ann Erwin
Office Manager
Tahoe Fracture & Orthopedic Medical Clinic, Inc.

973 MICA DRIVE
SUITE 201
CARSON CITY, NV 89705

2874 N Carson St # 105
Carson City, NV 89703

1520 VIRGINIA RANCH ROAD
SUITE 101B
GARDNERVILLE, NV 89410

306 SURPRISE STREET
(South Lyon Medical Barnett Clinic)
YERINGTON, NV 89447

1139 THIRD STREET
SOUTH LAKE TAHOE, CA
96150

150 C STREET
(1st @ A STREET)
HAWTHORNE, N V 89415

CENTRAL SCHEDULING: 775.783.6190, PRESS OPTION #2
CENTRAL SCHEDULING FAX: 775.783.6151
WWW.TAHOEFRACTURE.COM

Appendix V

DCI Financial Self Reflection Study Participation Acceptance

Dialysis Clinic, Inc.
A Non-Profit Corporation

June 29, 2016

To Whom it May Concern:

DCI authorizes its front office, back office, billing, and unlicensed medical support employees to participate in the Financial Self-Reflections Study to be conducted by Kimberly Greenman. Previous to the study being conducted, a DCI representative will give Kimberly general demographic information of the participating employees as a whole. DCI will be notified before the study begins and when it concludes. Additionally, DCI will receive a copy of the aggregated results of the study at no charge.

Thank you,

Nicholas J. Favero
Area Operations Director

"We are a service organization. The care of the patient is our reason for existence."

Carson City
778 Basque Way
Carson City, NV 89706
775-883-0255

Gardnerville
1281 Kimmerling Rd #A1
Gardnerville, NV 89460
775-265-4706

Elko
1995 Errecart Blvd #101
Elko, NV 89801
775-738-4090

Appendix W

PBS West Financial Self Reflection Study Participation Acceptance

PBS WEST
Professional Billing Services

August 12, 2016

To Whom it May Concern,

PBS West authorizes its billing and support staff employees to participate in the Financial Self-Reflections study to be conducted by Kimberly Greenman. Previous to the study being conducted, a PBS West representative will give Kimberly general demographic information of the participating employees as a whole. PBS West will be notified before the study begins and when it concludes. Additionally, PBS West will receive a copy of the aggregated results of the study at no charge.

Thank You,

Tanya Fagetan, SHRM-CP

Human Resources

825 Maestro Drive • PO Box 18948 • Reno • Nevada • 89511

Human Resources Phone: 775.283.3147 • Fax: 775.636.7325

Appendix X

The Reno Dentist Financial Self Reflection Study Participation Acceptance

the RENO dentist

January 24, 2017

To Whom it May Concern,

The Reno Dentist authorizes its employees to participate in the Financial Self-Reflections study to be conducted by Kimberly Greenman. Previous to the study being conducted, a representative of The Reno Dentist will give Kimberly general demographic information of the participating employees as a whole. The Reno Dentist will be notified before the study begins and when it concludes. Additionally, The Reno Dentist will receive a copy of the aggregated results of the study at no charge.

Thank You,

Stephanie Tuia
Chief of Operations
www.TheRenoDentist.com
855 W Seventh St. #200 Reno, NV 89503
15McCabe Dr. #104 Reno, NV 89511
775-322-5016 ph 775-309-4163 fx

the RENO dentist

Enliven Your Smile

Appendix Y

High Desert Endodontics Financial Self Reflection Study Participation Acceptance

HIGH DESERT
ENDODONTIC SPECIALISTS

Spencer Fullmer D.D.S., M.S.
Hannah Beus, D.D.S., M.S.
4101 Caughlin Sq. Suite 2
Reno, NV 89519

February, 2017

To Whom it May Concern,

High Desert Endodontics authorizes its employees to participate in the Financial Self-Reflections Study to be conducted by Kimberly Greenman. Previous to the study being conducted, a High Desert Endodontics representative will give Kimberly general demographic information of the participating employees as a whole. High Desert Endodontics will be notified before the study begins and when it concludes. Additionally, High Desert Endodontics will receive a copy of the aggregated results of the study at no charge.

Thank You,

Spencer Fullmer DDS, MS

highdesertendodontics@gmail.com www.highdesertendo.com p: 775.826.6111 f: 775.826.0919

Appendix Z

Tahoe Carson Radiology Financial Self Reflection Study Participation Acceptance

TCR
Tahoe Carson Radiology

May 22, 2017

To Whom it May Concern,

Tahoe Carson Radiology/High Desert Imaing authorizes its radiology assistance employees, clerical and radiology techs to participate in the Financial Self-Reflections Study to be conducted by Kimberly Greenman. Previous to the study being conducted, a Tahoe Carson Radiology/High Desert Imaging representative will give Kimberly general demographic information of the participating employees as a whole. Tahoe Carson Radiology/High Desert Imaging will be notified before the study begins and when it concludes. Additionally, Tahoe Carson Radiology/High Desert Imaging will receive a copy of the aggregated results of the study at no charge.

Thank You,
Debbie Showalter
Debbie Showalter
Human Resources
Tahoe Carson Radiology/High Desert Imaging
(775) 283-3059

Mailing PO Box 2830 • Carson City • Nevada • 89702-2830
Physical 2874 North Carson Street • Ste 300 • Carson City • Nevada • 89706
Phone 775.283.3059 • Fax 775.283.3023

Appendix AA

Yoga Pod Financial Self Reflection Study Participation Acceptance

9/19/2017
Yoga Pod Reno

To Whom it May Concern,
Yoga Pod Reno authorizes its employees to participate in the Financial Self-Reflections study to be conducted by Kimberly Greenman. Previous to the study being conducted, a Yoga Pod Reno representative will give Kimberly general demographic information of the participating employees as a whole. Yoga Pod Reno will be notified before the study begins and when it concludes. Additionally, Yoga Pod Reno will receive a copy of the aggregated results of the study at no charge.

Thank You,
Mike Fraley
Manager

Appendix AB

Carson City Endodontics Financial Self Reflection Study Participation Acceptance

October 2nd, 2017

To Whom it May Concern,
Carson City Endodontics authorizes its employees to participate in the Financial Self-Reflections study to be conducted by Kimberly Greenman. Previous to the study being conducted, a Carson City Endodontics representative will give Kimberly general demographic information of the participating employees as a whole. Carson City Endodontics will be notified before the study begins and when it concludes. Additionally, Carson City Endodontics will receive a copy of the aggregated results of the study at no charge.

Thank You,
Chris Lingard

Appendix AC

Stedham Electronics Financial Self Reflection Study Participation Acceptance

stedham electronics

4900 Mill Street, BLDG A-4
Reno, NV 89502
Phone +775 826-2003 Fax +775 826-2004
www.stedham.com

Oct 2, 2017

To Whom it May Concern,

Stedham Electronics authorizes its employees to participate in the Financial Self-Reflections study to be conducted by Kimberly Greenman. Previous to the study being conducted, a Stedham representative will give Kimberly general demographic information of the participating employees as a whole. Stedham Electronics will be notified before the study begins and when it concludes. Additionally, Stedham Electronics will receive a copy of the aggregated results of the study at no charge.

David Stedham
President

Appendix AD

Valley Veterinary Clinic Financial Self Reflection Study Participation Acceptance

October 11th, 2017

To Whom it May Concern,
Valley Veterinary Clinic authorizes its employees to participate in the Financial Self-Reflections study to be conducted by Kimberly Greenman. Previous to the study being conducted, a Valley Veterinary Clinic representative will give Kimberly general demographic information of the participating employees as a whole. Valley Veterinary Clinic will be notified before the study begins and when it concludes. Additionally, Valley Veterinary Clinic will receive a copy of the aggregated results of the study at no charge.

Thank You,
Name

[redacted]

Appendix AE

Orthodontic Partners Financial Self Reflection Study Participation Acceptance

October 11th, 2017

To Whom it May Concern,
Orthodontic Partners authorizes its employees to participate in the Financial Self-Reflections study to be conducted by Kimberly Greenman. Previous to the study being conducted, an Orthodontic Partners representative will give Kimberly general demographic information of the participating employees as a whole. Orthodontic Partners will be notified before the study begins and when it concludes. Additionally, Orthodontic Partners will receive a copy of the aggregated results of the study at no charge.

Thank You,

Daniel Walton

Appendix AF

Advanced Supply Chain Logistics Financial Self Reflection Study Participation Acceptance

October 12, 2017

To Whom it May Concern,
Advanced Supply Chain Logistics authorizes its employees to participate in the Financial Self-Reflections study to be conducted by Kimberly Greenman. Previous to the study being conducted, an Advanced Supply Chain Logistics representative will give Kimberly general demographic information of the participating employees as a whole. Advanced Supply Chain Logistics will be notified before the study begins and when it concludes. Additionally, Advanced Supply Chain Logistics will receive a copy of the aggregated results of the study at no charge.

Thank You,

Appendix AG

Carpenters Music World Financial Self Reflection Study Participation Acceptance

October 13th, 2017

To Whom it May Concern,
Carpenters Music World authorizes its employees to participate in the Financial Self-Reflections study to be conducted by Kimberly Greenman. Previous to the study being conducted, a Carpenters Music World representative will give Kimberly general demographic information of the participating employees as a whole. Carpenters Music World will be notified before the study begins and when it concludes. Additionally, Carpenters Music World will receive a copy of the aggregated results of the study at no charge.

Thank You,

Appendix AH

LP Insurance Financial Self Reflection Study Participation Acceptance

10-20-17

To Whom it May Concern,
LP Insurance authorizes its employees to participate in the Financial Self-Reflections study to be conducted by Kimberly Greenman. Previous to the study being conducted, a LP Insurance representative will give Kimberly general demographic information of the participating employees as a whole. LP Insurance will be notified before the study begins and when it concludes. Additionally, LP Insurance will receive a copy of the aggregated results of the study at no charge.

Thank You,

Angela Atchley

Human Resource Manager
LP Insurance Services, Inc.

Appendix AI

PBS Billing and Tahoe Fracture and Orthopedic Clinic Letter to Request Change in Study Work Time Reimbursement

April 7th, 2017

Attention: PBS Billing
Attention: Tahoe Fracture and Orthopedic Clinic

Thank you again for participating in my dissertation research, a Financial Self Reflection Study. I have now completed the pilot study for the project and it has become apparent that we will get the highest level of employee participation if the employer asks the employees to complete the survey on company time. The survey will take approximately 1 hour to complete. It can be started and stopped as needed for up to a week and the employee can pick up exactly where they left off if their time is needed for other tasks at work. In order to reimburse the employer for the company time taken to complete the study, the employer (PBS Billing and Tahoe Fracture) will be reimbursed $20 for each of their employees who complete the study. In order to maintain consistency throughout the study participants, I need to ask that you both retain the funds as a reimbursement for your employees' time, rather than passing the reimbursement on to your employees. Please let me know if this is acceptable and if you have any questions.
Thanks,
Kimberly

Kimberly Greenman, M.S.W., L.S.W.
Doctoral Candidate in the Interdisciplinary Social Psychology Program
University of Nevada, Reno
kngreenman@ymail.com

Appendix AJ

Participating Companies in the Pilot Study

Dialysis Clinic Incorporated, a non-profit corporation, provides care and rehabilitation for patients with end-stage renal disease (kidney failure). DCI provides services nationally, though the DCI division participating in the study provides services from the Carson City, Gardnerville, and Elko areas. There were thirty-three DCI employees in the Nevada clinics. The twelve employees invited to participate in the study were the front office, back office, billing, and unlicensed medical support staff. Employees' income ranged from $14 to $18 an hour. The majority of these employees work full-time. The majority of the unlicensed staff, work as patient care technicians. Their duties include: initiate and discontinue dialysis treatments, conduct routine blood pressure checks, and address machine alarms. Each clinic also has a unit clerk whose duties include: handling medical records, purchasing, filing and clerical/secretarial duties.

The participating ARCO franchise is a gas station and store located in the Carson City area. There were approximately twelve employees of this franchise invited to participate. Employees' income ranged from $8.50 to $14 an hour, with the average pay approximately $10 hour ($9.81). The majority of employees work full-time (10 full-time, 2 part time). Employees' duties range from operating the cash register, cooking perishable foods for sale, stocking items for sale and cleaning the store.

High Desert Endodontics is a medical clinic, which provides root canal treatment and root canal surgery. High Desert Endodontics is located exclusively in the Reno are. There are approximately 7 employees who earned a range of $15 to $25 an hour, with an average hourly pay of $20. The employees service the clinic as front office staff, back office staff or marketing staff. Front office staff duties include: answering phones, making appointments, and assistance with medical billing. Back office staff duties include: assist in surgery, take radiographs, and provide triage of patients. The marketing staff duty includes: offering of marketing assistance.

The Reno Dentist is a dental clinic, providing dental services for the greater Reno, Nevada area. Offices are located in Northwest and South Reno. There were nine employees invited to participate in the study, each earned between $15-$19 an hour, with the average pay of $17 hour. The employees service the clinic as dental assistants and patient care coordinators. Their duties range from answering phones, making appointments, collecting patient payments, billing insurance claims, posting insurance payments, assisting with patient care, helping determine patient needs, instrument sterilization, as well as setup and cleanup of treatment rooms.

Tahoe Carson Radiology provides radiology services in the Nevada area, including Battle Mountain, Carson City, Hawthorne, Las Vegas, Reno, Sparks, and Yerington. Services are also provided in Glendale, and Mesa, Arizona area, as well as the California area. The Tahoe Carson Radiology employees invited to participate in the study were those who serve as both radiology technicians and clerical workers. Radiology technicians' duties include providing imagining using the radiology equipment, as well as getting reports from and to radiologists. Clerical workers duties include registration, service authorization, taking payments, routing and directing phones, etc. Most employees work full-time, two work part-time. Potential participating employees hourly pay ranged between $14-$30 an hour.

Appendix AK

Participating Companies in the Study

Professional Billing Services, PBS West is a medical billing company consisting of eighty-four employees. PBS West provides billing services from Reno, Nevada, Paso Robles, California, and Corvallis, Oregon. The seventy-seven employees invited to participate in the study were the billers and office support staff, located mainly in the Reno office, though a few work out of the California and Oregon offices. These employees' income ranged from $10 to $30 an hour with the average hourly pay at $15.87. Employees duties ranged from general office responsibilities, computer based medical billing, customer service support, and client service support.

Tahoe Fracture and Orthopedic Clinic is an orthopedic medical practice consisting of approximately fifteen physicians and approximately ninety employees. Tahoe Fracture provides orthopedic medical services from the Carson City, Gardnerville, Hawthorne, South Lake Tahoe, South Reno, and Yerington areas. The sixty employees invited to participate in the study were the front office, back office, billing, and unlicensed medical support staff. These employees' income ranged from $12 to $20 an hour, with the average pay $15 hour. The majority of employees work full-time. Employee duties range from answering phones, to scheduling medical services, to serving as medical support to the physicians.

LP Insurance provides business insurance, personal insurance, risk services, as well as employee benefits. These services are provided from the Reno area, as well as the Las Vegas, NV, Elko, NV, Truckee, CA, Gold River, CA, and Phoenix, AZ areas. LP Insurance employs one hundred and fifty-two employees, eighty of which were invited to participate in the study. The employees invited to participate serve as account managers and account assistants, generally work full-time and earn an average of approximately $22 hour. Employees are responsible for the handling the day to day insurance needs of clients, which included processing endorsements, issuing certificates, reviewing policies, and gathering information for renewals.

Yoga Pod, located in the Reno area, provides weekly yoga, barre, strengthening, and relaxation classes. Yoga Pod has approximately thirty employees who serve as either yoga instructors or as front desk staff. Wages ranged between $11 and $25 an hour. The yoga instructor average pay is $25 an hour and the front desk average pay is $11 an hour. The instructor duties include yoga class instruction. The front desk duties include cleaning the studio, selling memberships and merchandise, and being the first impression when people come into the studio.

Stedham Electronics, located in the Reno area, designs and manufactures sensors used in robotics, automation, process control, and liquid level monitoring. Stedham Electronics has eight employees, six full-time, two part-time. The five qualifying employees' hourly pay ranged from $15 hour to $29.75 hour, with the average pay at $20 hour. Employees' duties include electronic assembly, QC testing, packaging, shipping, and receiving.

Carson City Endodontics, located in the Carson City, NV area, provides endodontic procedures. The clinic provides services for root canal therapy, endodontic retreatment, apicoectomy, cracked teeth, and traumatic injuries. Carson City Endodontics employs five full-time employees. The average pay was $16.80 hour. Three employees serve as assistants, with main duties including assisting clinically, as well as set up and cleanup of rooms. Two employees work at the front desk with duties including scheduling patients and processing insurance claims.

Valley Veterinary Clinic, located in the Reno area provides veterinary services including: pet wellness, surgery, dental care, radiology, lab diagnostics, pharmacy, and pain management. Valley Veterinary Clinic has seven employees, all who work full-time. Employees' hourly pay ranged from \$12.50 hour to \$19.00 hour, with the average pay at \$15.75 hour. Employees work either as veterinary technicians, veterinarian assistants, or at the front desk. Duties for veterinary technicians include assisting with treatments and injections. Duties for veterinary assistants include writing up records, filling prescriptions, and help with phones and client services as needed. Duties for front desk include reception, phones, and client services.

Advanced Supply Chain Logistics provides transportation, warehousing, and logistics services, including truckload, LTL cargo, multimodal, and intermodal services. Advanced Supply Chain Logistics is located in Reno, NV, Calexico, CA, and Laredo, TX, and has approximately thirty-five employees. All employees work full-time, and, aside from management employees, earned between \$14 hour to \$17 hour, with the average pay at \$15.50 hour. Employees provided phone and computer support.

Orthodontic Partners, located in the Reno area, provide orthodontic services. Orthodontic Partners has twenty employees, all full-time. The average pay was \$16 an hour. Employees main duties include dental assisting, sterilization, marketing, front desk and reception.

Carpenters Music World, located in the Reno area, provides services for musical instruments including: sales, purchase, rental, restoration, piano moving, tuning, and a vast array musical support services. Carpenters Music World has nine employees, five full-time, four part-time. The average pay was $17 an hour. The employees' main duties include: bookkeeping, sales, and customer service.

Appendix AL

Pilot Study 1 In Depth Examination

Although participants were small in number, there were some valuable findings in examination of the pilot study data. The findings of the pilot study offered insights into improvement of the study design, technical design, and participant incentives, which needed to be made prior to the main study. Furthermore, the pilot study offered support for participant enjoyment and life relevance in completing the study, as well as initial support for the several adapted scales to be used in the main study.

Study Invitations.

There were two different invitations utilized for the pilot study and an entirely different invitation ultimately used for the main study. The first invitation was not well received by participants, as only one employee responded to participate. See Appendix A. The invitation was restructured, resent and there was some employee response to this invitation. However, it was determined for the main study that additional restructuring was needed. Diane Bartholomew, educational specialist, provided consultation for the improvement in wording of the invitation. See Appendix B. There was far greater response to the restructured invitation in the main study than there had been with either of the invitations in the pilot study.

Participant Reception of the Material.

One of the findings was the positive reception to the material. An example participant comment was, "…I was learning new things that will help me in my future financial situations". Another comment was, "There was a lot of information on how to use credit cards wisely and investing into things to help you improve the amount of money you have saved. It was also helpful to see that it is possible for anyone. Anything is a start." Yet another comment was, "It helped me understand that I should be saving now before its too late". The comments demonstrated participants' desires to improve financial saving processes.

Study Participation Incentive.

Another of the findings was how few of the potential employee participants agreed to use free (non-work time) to participate in the study. With only four completing the study out of a potential of forty participants, it was a one in ten ratio for participation. This finding provided insight into making a change for the main study. (Complete insight came following an attempt at a second pilot study.) It was determined that in the main study, it would be more beneficial to incentivize the employers, rather than the employees for the employees to complete the study. The $20 incentive was determined better used as a reimbursement for participant employees' work time in lieu of incentivizing employees to participate in their free time. This change was cleared with the IRB and a revised face page was approved. See Appendix C. Additionally, a letter was sent to the two pre-identified companies in the main study to elicit their support for the change. See Appendix AI. Both companies approved of the change and future companies for the main study were recruited with this option. As an incentive to the employees, there was an incentive added in the main study of drawings for $50 Amazon gifts cards for employees who completed the study.

Study Design Alteration.

Another of the findings was the apparent confusion for participants in using the post reflective questionnaire format. In the pilot study, participants were asked after viewing the group specified online material, how much they agreed with saving statements. These statements were structured to appear twice, first with the saving statement, followed by, "After watching the video" and secondly, with the same saving statement, followed by, "Before watching the video". Some participants repeatedly skipped either a "After" or "Before" question, not appearing to understand answers to both time frames were needed. Due to this apparent confusion, the decision was made to utilize a traditional pre-test post-test design to present the pre-test DV questionnaires at the beginning of the study, before exposure to any online material and then to present the post-test questionnaires toward the end of the study, after exposure to the online material.

Another of the findings was that valuable information was being lost with regard to how participants were affected by the interventions. It was noted that there was no applicable questionnaire in place to serve as a pre-test to use against the existing questionnaire which could serve as a post-test at the end of the intervention. Due to this, it was determined that a pre-test should be added before each of the interventions and the post-test should remain after each of the interventions. Likewise, a pre-test was also added before and after each of the control videos as well in order to maintain consistency between material exposure and questionnaires. See Table 10. However, utilizing each questionnaire as a pre-test and post-test left a gap in questionnaire material to serve as a manipulation check. For this reason, additional manipulation questions were created for each of the intervention and control videos. See Table 9.

Another of the findings was the incremental saving intervention questionnaire as well as the financial literacy intervention questionnaire both contained answer choices which read from: Strongly Agree, Agree, Mostly Agree, Mostly Disagree, Disagree, Strongly Disagree. The incremental saving intervention questionnaire response options had been designed this way, while the financial literacy intervention response options had been incorrectly flipped. The remainder of the questionnaires contained response options, which read: Strongly Disagree, Disagree, Undecided, Agree, Strongly Agree. For this reason, it was determined that to ease the study flow for participants it was prudent to flip the answer choices for these two questionnaires to match the remaining response options. See Tables 5 and 7. It was also noted in one of the demographic questions "As I was growing up my parents did a really good job saving money" that the answer choices had been incorrectly flipped from positive to negative and was repaired to flow from negative to positive. See Table 11.

Technical Error Correction.

Another of the findings was a technical error in which a portion of the Financial Savings URICA questionnaire was cut out leaving only ten of the twenty-four questions for participants to answer. Additionally, the four Saving Intent questions were also cut out of the online material. Catching this technical difficulty in the pilot allowed for it to be remedied in the main study.

Scale Performance.

Adapted Theories of Saving Scale.

Another of the findings was the adapted financial saving version of the Theories of Intelligence Scale-Self Form for Adults performed well. The question, "You have a certain ability to save money, and you can't really do much to change it" earned: 1 strongly disagree, 2 mostly disagree, and 1 mostly agree. The question, "Your ability to save money is something about you that you can't change very much' earned 2 strongly disagree, 1 mostly disagree, and one non-answer. The question, “To be honest, you can’t really increase your ability to save money” earned 2 strongly disagree, 1 mostly agree, and 1 non-answer. Lastly, the question, “You can learn new saving practices, but you can’t really increase your basic saving ability” earned 2 strongly disagree, 1 mostly agree, and one non-answer.

Financial Fitness Scale-Adapted for Employees

Likewise, the adapted employee version of the financial fitness scale performed well. The questions, “Making and using a budget gives me a lot of financial power” earned a strongly agree. The question, “Setting aside some emergency money now can help me prepare for when financial emergencies come” earned a strongly agree. The question, “Good debt (ex: well priced mortgage) can help me more than bad debt (ex: credit card interest fees)’ earned a strongly agree. The question, “Saving a little money each day can build up a lot of money in the future” earned a strongly agree.

Stages of Saving Change Scale.

The adapted financial saving version of the URICA appeared to perform well from the questions, which were answered in the study. The question, “I don’t need to save any of my money regularly. (After watching the videos)” earned 2 strongly disagrees, 1 disagree, and 1 non-answer. The same question “Before watching the videos” earned 3 strongly disagree and one undecided. The question, “I am currently saving some of my money (After watching the videos)” earned 2 strongly agree, 1 strongly disagree, and 1 non-answer. The same question “Before watching the videos” earned 2 strongly agree, 1 agree, and 1 strongly disagree.

The question, “I think I might be ready to improve how I save (After watching the videos)” earned 2 strongly agree, 1 undecided, and 1 non-answer. The same question “Before watching the videos” earned 1 strongly agree, 1 agree, 1 undecided, and 1 disagree. The question, “I’m working on saving (After watching the videos)” earned 2 strongly agree, 1 agree, and 1 non-answer. The same question “Before watching the videos” earned 2 strongly agree and 2 agree. The question, “Trying to save money is pretty much a waste of time for me. (After watching the videos)” earned 3 strongly disagree, 1 disagree. The same questions “Before watching the videos” earned 3 strongly disagree and 1 non-answer.

The question, “I would like to better understand how to save. (After watching the videos)” earned 1 strongly agree, 2 disagree, and 1 non-answer. The same question “Before watching the videos” earned 2 strongly agree and 2 disagree. The question, “It’s not a big priority right now to get better at saving my money (After watching the videos)” earned 4 strongly disagree. The same question “Before watching the videos” earned 4 strongly disagree. The question, “ I am really working hard to save money. (After watching the videos)” earned 1 strongly agree, 2 agree, and 1 disagree. The same question “Before watching the videos” earned 1 strongly agree, 1 agree, 1 disagree, and 1 non-answer.

The question, “I think I will work on saving money for some of the things I want. (After watching the videos)” earned 1 strongly agree, 2 agree, and 1 undecided. The same question “Before watching the videos” earned 1 strongly agree, 1 undecided, 1 disagree, and 1 non-answer. The question, “I have done a good job saving some of my money. (After watching the videos” earned 1 strongly agree, 2 agree, and 1 disagree. The same question “Before watching the videos” earned 1 strongly agree, 1 agree, 1 disagree, and 1 non-answer. Questions 11-24 were accidentally cut off of the online material so answers were not provided. The intent to save questions 1-4, were also cut off of the online material so answers were not provided. This error was caught following the pilot study and was remedied for the main study.

Control Material

In addition to its role for identifying and improving issues with the adapted scales prior to launching the main study, it was hoped the pilot study would also be used to verify the control material did not have a significant impact on the transtheoretical level of saving change and intent to save as well as to pre-establish what limited exposure pre-test questions had on post-test answers. As there was not a participant who completed the control group version of the pilot study, the answer as to control material exposure on the DVs was not answered in the pilot study.

Demographic Information.

The demographic questions offered insight into the pilot study participants. Each of the four participants was female. One was between the age of 18-24, one was between the age of 25-34, and two were between the age of 55-64. One was single, never married, while three were married. There were two adults in each of the participants’ households. Each participant identified as white, with some college education. One participant had a household income of $15,000-$24,999, one of $35,000-$49,999, and two of $100,000-$149,000. One participant had current assets of $0-$500, one of $5,001-$10,000, one of $50,001-$60,000, and one of more than $150,000. One participant had debt amount of $5,001-$10,000, one of $10,001-$20,000, one of $90,001-$100,000, and one was a non-answer. One participant placed their parents' socioeconomic status as lower middle class, two as middle class, and one as upper middle class. When asked if they felt their parents did a really good job saving money, one participant said strongly agree, one participant said agree, one said uncertain, and one said disagree. Two of the participants took the study on a smart phone and two on a computer.

Appendix AM

Hypotheses Testing Table

H1: *Exposure to training about incremental theory is associated with positive movement through the transtheoretical model of saving change*. There was no statistical significance to support this hypothesis. However, the Group P and Group S average difference between the pre-test and post-test average scores suggested when combined with future financial self intervention and financial literacy intervention, incremental saving intervention is associated with positive movement through the transtheoretical model of saving change.

H2*: Exposure to training about incremental theory combined with training about future financial self is associated with positive movement through the transtheoretical model of saving change*. There was no statistical significance to support this hypothesis.

H3: *Exposure to training about incremental theory combined with training about future financial self is associated with greater positive movement through the transtheoretical model of saving change than exposure to training about incremental theory only*. There was no statistical significance to support this hypothesis.

H4: *Exposure to training about incremental theory combined with training about future financial self and basic financial literacy training is associated with positive movement through the transtheoretical model of saving change*. There was no statistical significance to support this hypothesis. However, the Group P and Group S average difference between pre-test and post-test scores suggested exposure to training about incremental theory combined with training about future financial self and basic financial literacy training is associated with positive movement through the transtheoretical model of saving change.

H5: *Exposure to training about incremental theory combined with training about future financial self and basic financial literacy training is associated with greater positive movement through the transtheoretical model of saving change than exposure to training about incremental theory and future financial self only*. There was no statistical significance to support this hypothesis. However, the Group P, Group R, and Group S average scores suggested exposure to training about incremental theory combined with training about future financial self and basic financial literacy training is associated with positive movement through the transtheoretical model of saving change.

H6: *Exposure to training about incremental theory is associated with increased saving intent.* Exposure to training about incremental theory is associated with increased saving intent, $F(3, 56)=3.00$, $p<.05$. Additionally, when tested in combination with exposure to Stages of Saving Change, exposure to training about incremental theory is associated with increased saving intent, $F(1, 54) = 4.40$, $p<.05$. Lastly, Group P and Group Q average difference between pre-test and post-test average scores suggested exposure to training about incremental theory is associated with increased saving intent.

H7: *Exposure to training about incremental theory combined with training about future financial self is associated with increased saving intent.* There was no statistical significance to support this hypothesis. However, the Group P, Group Q, and Group R average difference between pre-test and post-test scores suggested exposure to training about incremental theory combined with training about future financial self is associated with increased saving intent.

H8: *Exposure to training about incremental theory combined with training about future financial self is associated with greater saving intent than exposure to training about incremental theory only*. There was no statistical significance to support this hypothesis. However, the Group P, Group Q, and Group R average difference between pre-test and post-test scores suggested exposure to training about incremental theory combined with training about future financial self is associated with increased saving intent.

H9*: Exposure to training about incremental theory combined with training about future financial self and basic financial literacy training is associated with increased saving intent.* There was statistical significance in the Group S paired samples t-test to support this finding, $t(19)=2.20$, $p<.05$, $r=.48$ suggesting that exposure to training about incremental theory, future financial self, and financial literacy training is associated with intent to save. Additionally, the Group P, Group Q, Group R, and Group S average difference between pre-test and post-test scores further supported this finding.

H10: *Exposure to training about incremental theory combined with training about future financial self and basic financial literacy training is associated with greater saving intent than exposure to training about incremental theory and future financial self only*. There was statistical significance in the Group S paired samples t-test to support this finding, $t(19)=2.20$, $p<.05$, $r=.48$ though not in the Group R. This suggests that exposure to training about incremental theory, future financial self, and financial literacy training is associated with intent to save to a greater degree than exposure to incremental saving and future financial self only. Additionally, Group R, and Group S average difference between pre-test and post-test scores further supported this finding.